# The United States miller. Vol. 171884 

Milwaukee, Wisconsin: [s.n.], 1884
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OUR SEMI－CENTENNIAL OF FLOUR MILL BUILDING．

Parties contemplating the erection of new Mills， or improving and increasing the capacity of old ones，will serve their best interests by correspond ing with and submitting their ideas to us．

Single and Double Roller Mills， Concentrated Roller Mills， Round＇s Sectional Roller Mills，
S CORRUGATION.


Simplicity of Construction，
Positiveness of Action， Ease of Management， Less Liability to Get Out of Order， Less Power Required， Greater Capacity Obtained．
THE STEVENS ROLLS are the most wite tirit THE STEVENS ROLL catalogue and price list．

Beware of Second－hand Stevens Roller Mills offered by one of our competitors．They were made in 1881 and have since passed through a fire．

THE JOHN T．NOYE MANUFACTURING CO．，BUFFALO，N．Y．

## GRAYS NOISELESS BELT ROLLER MILLS． <br> S「エYエ曰 B

## FOR SMALL MILLS．

E．P．ALLIS \＆CO．，

Reliance Works，Milwaukee，Wis．


ODELL＇S ROLLER MILL SYSTEM．
Is now in successful operation in a large number of mills，both large and small，on hard and soft wheat，and is meeting with Unparalleled Success，All the mills now running

## ODELL＇S ROLLER MILL，

## Invented and Patented by $\boldsymbol{U}, \boldsymbol{H}$ ．ODELL，the builder of several of the largest and

## AN ESTABLISHED SUCCESS

$\rightarrow *$ POINTS OF SUPERIORITY ${ }^{*}$ possessed by the Odell Roller Mill over all competitors，all of which are broadly covered ly
patents，and cannot be used on any other machinet． I．It is driven entirely with belts，which are so arranged as to be equivalent to giving each
of the four rolls a separate driving－belt from the power shaft．thus obtaining ia povitic motion which caunof he had with short belt，
2 It is the only Roller Mill in market which can instantly be stopped without
throwing off＇the driving－belt，or that has adequate tightener devices for throwing off＂the driving－belt，or that has adequate tightener devices for taking up the
stretch of the driving－belts． 3 ．It is the only Roller Mill in which one morement of＂hand－lever spreads the
rolls apart and shuts off the feed at the same time．The teverse movement of this lever brings she rolls back again exactly into working position and at the same time
turns on the feeld 4．It is the only Roller Mill in which the movable roll－bearings may be adjusted to and
from the stationary roll－bearings without disturbiug the tensiou 5．Our Corrugation is a decided advance over all others，It produces a more even gram
lation，more middings of uniform shape and size，aud clecus the bren better．

## We use none but the Best Ansonia Rolls．

 LESS BREAK FLOUR and MIDDLINGS of BETTER quality．Mill owners adopting our Roller Mills will have the benefit of Mr．Odell＇s advice，and long experience in arranging mills．Can furnish machines on short Notice．For further information，apply in person or by letter to the sole manufacturers，

## THE LARGEST MILL FURNISHING ESTABLISHMENT IN THE WORLD. REIMAANCE WUOREXS, EDW. P. ALLIS \& CO., Proprietors.



MLLWAUKEE, WIS., U. S. A.
SOLE MANUFACTURERS OF GRAY'S PATENT Noiseless Belt Roller Mills

## Wegmann's Patent Porcelain Rolls.

Unexcelled for reducing Middlings to Flour.
Far ahead of Smooth Iron or Scratch Rolls and entirely superseding the use of Mill

## Fead the F"Ollowing Tetters.

Terre Haute, Ind., Aug. 22nd, 1882.

Messrs. E. P. Allis \& Co., Milwaukee, Wis.
Gentlemen :-We are very much pleased with the whole eight set of Porcelain Rolls you put in our Mill. The two double sets sent us soon after starting up our mill last fall, we put in place of two run of stones for grinding our coarse Middlings.

We find the Flour from the Porcelain Rolls much more evenly granulated and much sharper and cleaner than that we got from the stones, besides the second or fine Middlings are much better, being almost entirely free from germs and not as specky.

KIDDER BROS.

Kings County Flour Mills, Brooklyn, N. Y., Aug. 15, 1882
Messrs. E. P. Allis \& Co
Gentlemen:-You ask how I like the Porcelain Rolls as compared with Mill Stones. Thave been using the original Porcelain Gear Machines for five years and became con-
vinced a long time ago that Mill stones could not produce as satisfactory result I am now operating your Improved Machine of increased size witli nice adjustments, Wraiking without noise with Gray's Patent Belt Drive. The Flour it produces is beautifully grainy and strong, and its capacity two or three times more than the old Gear Machine.
It runs splendidly, gives no trouble consumes less power than Will Sto with costly stone dressing and for reducing middlings and soft branny residuum, dispenses ings is unequaled by any Machine, iron or stone, at least this is my opinion after five years of practical experience. Yours truly, JOHN HARVEY,

Head Miller Kings Co. Mills, Brooklyn, N. Y

ALSO SOLE MANUFACTURERS OF THE CELEBRATED

## REYNOLDS' <br> CORLISS <br> ENGINE

Over 300 of these Engines in use.
These Engines are especially adapted for use in Flouring Mills-being unsurpassed in Simplicity, Durability and ECONOMY OF FUEL, and far ahead of any other

Automatic Cut-off Engines.

Send for catalogues of Roller Mills, Flour Mill Machinery, Saw Mill Machinery, Reynolds' Corliss Engines, etc., etc. Address :

Edw. P. Allis \& Co. millwaukee, wis.

The following is a partial list of Flouring Mill owners who are using the Reynolds' Corliss Engines.

[^0]| Milwankee, Wis. Red Wing, Minn. Milwankee, Wis. Milwaukee, Wis. Winona, Minn. Anoka, Minn. St. Paul, Minn. La Crosse, Wis. Milwaukee, Wis. Chicago, Ill. Stillwater, Minn. Winona, Minn. Dundas, Minn. .Sacramento, Cal. Hasting, Minn. Manitowoc, Wis. Minnetonka, Minn. .Faribault, Minn. .Salina, Kansas Faribault, Minn. Owatonna, Minn. . New Ulm, Minn. |
| :---: |

Two Rivers, Wis. $\left\lvert\, \begin{aligned} & \text { L. H. Lanier \& So }\end{aligned}\right.$ ..Meriden, Minn. $\begin{aligned} & \text { Wells \& Nieman.il......... }\end{aligned}$ G...Stillwater, Minn. $\left\lvert\, \begin{gathered}\text { B. D. Sprague. }\end{gathered}\right.$ reat Bend, Kansas. .Hamilton, Mo. .Mankato, Minn. Mannannah, Minn. . Wauconda, III. Hobtchinson, Minn. Columbü.... Olivia, Minn. Columbus Junction, Iowa. Grundy Centre, Iowa. Janesville, Minn. South Lyons, Mich. ............Burton, Mo. M
Menomonee Falls, Wis.

The Eisenmeyer C A. W. Ogilvie \& Co. . Urbant \& Son indell Bros. C Kehlor Milling Co alsh, DeRoo \& Co. Seyker Mill and Elevator Co. Topeka Mill and Elevator Co. C. A. Roberts Coman \& Morrison Fred. Schump.... Warren Mf'g Co

Nashville, Tenn Grundy Center, Neb. rundy Centre, Iowa Rushford, Minn Montreal, Canada . Buffalo, N. Y Hannibal To, O ....Hannibal, Mo East Holland, Mich . Fort Scott, Kan Kewaunee, Wis Graceville , Kan ........Fargo, D. T .arand Island, Mich .... Akron, Ohio
Warren, Minn

# Che Mnited Bitates <br>  


MILWAUKEE, MAY, 1884.


## the hazard of flouring mills.

## A paper read before the meeting of the West Mutual Underwriters' Association, Chicago,

 March 20.)The "Hazard of Flouring Mills" is a sub ject of the greatest importance to underwriters, and one which presents probably more difficulties to overcome than any other class of manufacturers with which we have to contend. It is a subject that scientists have studied and yet the problem remains unsolved. I certainly feel that I am incapable of doing this subject justice, and wish some one more competent and better qualified had been called upon to treat upon the "Hazard of Flouring Mills." I shall endeavor, however, to cover the ground to the best of my ability, and at the same time without going into unnecessary details. full and exhaustive essay upon this subject
would consume so much of your valuable time that this must necessarily be made as brief as possible
I shall first take the mill or building itself. On account of the necessary machinery con-
tained therein, flouring mills should be built tained therein, flouring mills should be built in the most substantial manner possible, and all precautions should be taken to prevent settling or sagging. The foundations cannot be too substantial, and too much care cannot be taken in their general construction. very best seasoned wood, and of great strength. The interior arrangements should be such as to insure the greatest convenience, safety and best results.
The location of a mill is a matter of the greatest importance, for a flouring mill located in an unsuitable and unprofitable locality, no matter how well built or equipped, is of view
As to the motive power of flouring mills, there seems to be a diversity of opinion, and I shall only note a few points. If the mill is steam power, the boiler and engine-room should be detached or protected thoroughly by fire-proof walls, and all openings by iron doors, and the wood-work overhead should be at least eight (8) feet from the boilers. The floors in front of the furnace should be of allowed. Boilers should be well bricked in and thoroughly covered. I regard steam power, properly constructed, preferable to power, prope
MACHINERY pproved pattern and lind of the approved pattern, and located so as to give the most favorable results. The product of the mill is of the greatest importance, for the milling business is so close that a mill turning out too small a percentage of first grade flour is a very poor investment. The
old mills, run under the stone system, are old mills, run under the stone system, are
especially dangerous, and should in every case be avoided. It has been fuily demonstrated (and we have paid for the knowledge, that mills of this kind are short-lived. The owners reason thus: It will hardly pay them to change their mill throughout, and make a roller mill of it, so they see that their insurance is placed in good companies, and up to the limit. After that they run the mill as best they can, and if she burns, all right. Of course they do not intend to set fire to their property, but under the circumstances they are not as careful as they should be, and are willing to take their chances. In fact, unless a mill is, strictly speaking, a roller mill, it is an extremely dangerous risk, as the day of oldfashioned and unimproved mills has passed.
The system of heating in flouring mills should always receive careful attention Steam pipes, properly arranged and protected are preferable to any other system. I do not think inspectors, as a rule, need any information or advice on this subject.
Cleanliness.-This is an all-important feature in the physical hazard of flouring mills There is a chance of saving a clean mill in case of fire. But a dirty one is about as danger ous as a powder magazine.
accumulations of Flour Dust.-We cannot be too careful in this direction. Dust rooms or catchers should be so constructed
that no dust vents into mill or on roof. Oily rags or waste used about machinery should be carefully handled, and not allowed to lie around loose. The waste pails or buckets recommended by this association supply a much-needed want in this direction. It is imperative that mills should be thoroughly hangers, bearings, gearings, and in fact, al the machinery, kept clean and free from dust and cobwebs.
Illuminating.-Many of our best mills are lighted by electricity which is a move in the right direction. This system does away with poor oils and poorly constructed lamps If oil is used it should be of the best quality and lamps of most improved kind, amply protected against dust. They should receive Poor lamps and oils are very perfectly clean. mill owners should spare neither pains nor expense in trying to avoid fire from this source. Tubular lanterns of the most approved patterns only should be allowed-open lights strictly prohibited. I have frequently seen globes on lanterns with a piece broken Such things should not be overlooked by inSuch things should not be overlooked by in-
spectors, and mill-owners who allow defective spectors, and mill-owners who allow defective ross carelessness.
Fire Protection.-I would advise a complete system of fire protection, both as regard apparatus and employes. The latter should be instructed how to act in case of fire, and each man should have his post and duties to perform. They should be thoroughly drilled and made familiar with what is expected of them in case of emergency, so as to avoid confusion. As a simple and reliable protection, give me barrels and buckets of water properly distributed, and kept in good order; not as we sometimes find them-barrels empty, and wooden buckets which fall to pieces comes within the reach of every one, and no matter how many other conveniences are at and no risk should be written without them Where it is practicable stand-pipes, with hose attached, should be placed in mills, and should always be ready for use. I would also recommend that perforated steam pipes be placed in flouring mills, as within a short time I have had my attention called to one flouring mill located at Waseca, Minn., and one paper saved both at Eau Claire, Wis., wher in both cases was nominal. It should be the duty of one man to see that all fire apparatus is in good working order, and extinguishers, standpipes and hose should be frequently and thoroughly tested, and that the casks or barrels are kept filled with water. The watchman should be a competent and trustworthy man. He should be thoroughly acquainted with the ocation and working of all fire apparatus, and if possible, should be a man who
lose his head in case of emergency.
Moral Hazard.-Inspectors cannot be too particular regarding the moral hazard of the property under inspection. Inquiries regarding the standing of owners, both financially and morally, cannot be too searching. The
grade of flour produced and the general condigrade of flour produced and the general condition of the business are also matters of the
greatest consideration. It should be borne in mind that a risk, physically good and morally rotten, is better off than on the company's books.
You will observe that I have given you my opinion briefly upon the following points: First, a flour mill building and its construction, showing the necessity of a well-constructed building and the necessary precautions to be taken in the foundation materials, interior arrangements, convenience, safety, and the an all-important matter to an inspector; third, power; fourth, machinery-here is where, in my opinion, an inspector has to exercise discretion and judgment. In order to get a true and accurate survey, and see o get a true and accurate survey, and see takes time and patience. Fifth, heating Believing that steam-pipes, properly arranged
and protected, are the best, I pass on to
cleanliness. Here again the have an eye to business, and from experienc I marany well-constructed and to all apition: Dusty, dirty, and cobwebs in profusion. To illustrate, I, but a few day since, inspected a mill and found it simply cancel, Result-I advised my company to They very politely write the secretary that his inspector was more nice than wise. Why slovenly way of doing business. They do not take into consideration the fact that this is an inspector's duty, and that by being what they please to term over nice, is only doing justice to them as well as to each and every member of our company. Frequen and thorough inspection of the physical haz ard in its most minute details, coupled with ing the moral hazard, is the true regard mutual insurance, and applies particularly to this class of risks. No matter how prolific our field may be, no matter how carefull ee may have sown the seed, weeds will spring among the grain, and our success and The mill referred to is comparatively new. The mill referred to is comparatively new
and, I understand, yields a handsome divi dend to its stockholders. Yet it is only question of time when mills allowed to re main in this condition will become food for
flames, and then the companies are at a loss to know why such fine risks burn. You immediately send your adjuster to the scene o the fire. He investigates thoroughly, and the cause of the fire is classed as "Unknown," plain English, the true cause was dirt and gross carelessness on the part of the owners. Lights.-Time will not permit me to dwel long upon this subject. But let me warn you that this is a very important feature, particularly in flouring mills. Here, again, judgment must be called into play, and strict attention given to oils, lamps, lanterns, jets, and othe modes of lighting. Defects can be found in almost every mill the inspector visits, and he should not hesitate to point them out to once protection. promise, but by action. Fire ideas fully on this question, so will pass on to the last subject, viz.:
The Moral Hazard.-Here is food fo thought. The inspector must be careful, judicious and thorough, for upon the mora hazard depends largely whether a policy b ble, ascertain the financial as far as possi owner, as well as his position or standing in the community in which he resides. In these matters he cannot be too searching, and now I shall bring my subject to a close. If I have vice or benefit to any ideas which will be of ser shall be mere than co-workers in the field, shall be more than paid for my first effort in this direction, and shall consider the time well spent. Permit me, gentlemen, to sin-
cerely thank you for your kind indulgence and attention

## A TOUCHING INCIDENT.

The distressing accident at the mill of Mer riweather \& Fredericks, by which a little so of Mrs.Leiyhelm of North Seattle, lost first his right arm and a few hours afterward his life is well remembered by the entire community About the accident clustered several features which impressed it with remarkable vividness upon the memory and makes it peculiarly sad-the tender age of the boy, the frightful nature of his injuries, the widowed mother for whose support he was toilingall these things united to form a most pathetic manner known. But yesterday, from the lips of his sisters, were heard the particulars of his last moments, which lifted up the sombre cloud that fell sadly down, and let the light of heaven in. It was at the hospital, and af ter the midnight hour. The operation had been performed; the remainder of the bruised and torn arm had been taken off, and the little
boy lay propped up in his bed with pillows. The sisters of Mercy stood by on either side, his pain. Gratefully the might to soothe t them, and faintly said: "You are all so kind to me; I don't know how I ever can pay you. I can't work any more, and mamma's too down to him, saying: "My poor little boy, don't you know you are dying?" For the angel,from far beyond the twinkling gems that pin night's curtains up, came silently through the open door and stood beside the dying child, and cast upon his pain-pinched face the light of that strange land. "Am I?" he wonleringly said. And then, thinking of that prayer heard first long centuries ago, learned from his mother's lips, he s,oftly spoke the ords: "Our Father-which art in Heavenhallowed be-Thy-name; Thy kingdom-ome-Thy will-be-done-" The whispers faint, the reatures changed more and more, faint smile came over the pale face and the ittle boy had gone with the kind messenger ho, coming, closed his eyes in final sleep.hronicle (Seattle, W. T.)

THE BRITISH PRESS ON INDIA WHEAT
Commercial papers of London, of recent date, commenting upon the fall in the price wheat in the United States, so far as it has been influenced by stories of the alleged ncreased production of the cereal in India, xpress the opinion that the Americans are ecoming unnecessarily alarmed. Some of he best English commercial authorities assert hat there is no good basis for any reasonable xpectation that India will within a generaion become a formidable rival to the United states in the supply of wheat. The reasons siven are the very inferior quality of Indian wheat as compared to good American standards, the inefficient character of Indian labor, he general indisposition of the Indian people to raise any more grain than they are compelled to for actual wants, and the lack of farm machinery and the difticulties attending all fforts to introduce and popularize modern arming implements among the people. It is contended that these difficulties will never be entirely overcome, and that all efforts to make ndia produce cereals for speculative export ill fail to secure results enough to justify countries.

## YEAST-TWO RECIPES

Virgin Malt Yeast-Haig's Patent. 1 lb . hops, 2 oz . quassia chips, and 7 impeial gallons water are mashed for twenty min tes, then boiled for ten or fifteen minute nd strained, cooled down to 170 deg . Fahr and 12 lbs . malt stirred into the infusion; this, fter mashing for 15 minutes, has the malt rains separated or pressed out, and the iquor allowed to cool down to and kept at he temperature at which fermentationpontaneous (not below 76 deg. or over 80 deg ) will be carried on

## This is the virgin yeast.

Fermentation will or should begin in from eighteen to twenty hours, and continue after that sixteen to twenty-four. When at its full height, take from the top half-a-gallon and place it in a close jar, in which place also 1 oz . or less bicarbonate of soda, and then cork air-tight and keep in a cool place.
This is a store for next brewing In Haig's patent yeast, when for bread, the quassia chips must be left out, else the yeast will be far too bitter.
Banbury Yeast; or so-called "Patent." 9 gallons water, $\frac{1}{2} \mathrm{lb}$. hops, $\frac{1}{2} \mathrm{lb}$. bruised ginger. Let these simmer 3 hours, then strain off, and when cooled to 160-170 deg. Fahr. stir in 7 lbs . malt. Mash for three hours, strain and well squeeze the malt grains. When the mash liquor has cooled to $70-76 \mathrm{deg}$. start fermentation with one gallon of "patent" (thi is patent) yeast, and 8 lbs . flour. Next day put into a cask and bung close.
This yeast is used with ferment, one quart $(2 t$ los.) to the sack, nine hours from time of tarting ferment to setting sponge.-Miller Gazette(London.)

United States Miller.
E. harrison cawker, Editor.

## pUBLISHED MONTHLY

 Ubscription price-Per Year, in AdVance. Bills for advertising
otherwise a\&reed upon
For estimates for ad
STATES MILLER.

## [Entered at the Post Office at Milwaukee, Wis., a second-class matter.]

MILWAUKEE, MAY, 1884.
We respectfully request our readers when they write to persons or firms advertisisg in this paper
to mention that their advertisement was seen in the United States Milerer. You will thereby United States Mllekr. You will thereby
oblige not only this paper, but the advertisers.

## 81,388.

## $\$ 50, \overline{000}$ BOND.

We have received the following communication from S. H. Seamans, Esq., Se
of the Millers' National Association:

Milwaukee Wis., April 19, 1884. Editor United States Miller, Milwau
kee, Wis. In response
In response to the request of the Sub
Executive Committee, the Geo. T. Smith Middlings Purifier Co., of Jackson, Mich., have filed in this office their "Bond of Indem nity," in the sum of fifty thousand dollars (with names of three of the wealthiest citizens
of Jackson as sureties), to protect and indemof Jackson as sureties), to protect and indem-
nify our members against any and all claims nify our members against any and all claims
that may be brought for infringement of that may be brought for infringement of
what is known as the Gilbert Sieve or Starch what is known as the Gilbert Sieve or Starch
Patent No. 81,888, recently sustained by the Patent No. 81,888 , recently sustained by the
District Court for the Western District of New York.
In acceding to the request of the committee the Geo. T. Smith Middlings Purifier Co. have given us additional evidence that
they not only furnish a first-class machine, they not only furnish a first-class mac
but will protect purchasers in their use. Respectfully,
S. H. SEAMANS,

The following is a copy of the bond furnished, the sureties on which are reported worth over two and a half millions of dollars:
KNow all men by these presents, That we, the GEo. T. Smith Middings Purifier Com-
PANY, of Jackson, Michigan, a corporation under the
laws of said state, as principal, and William D.
Thompson, Alonzo Bennett and William H Withing Thompson, Alonzo Bennett and William H. Withing-
ton, in the said County of Jackson, in the state of
Michigan, as surety, are held and firmly bound unto Michigan, as surety, are held and firmly bound unto
TEPHAN H. SEAMANs, Secretary of the Millers' Na-
tional Association, and to his successors in office, in tional Association, and to his successors in office, in
the just and full sum of Fifty Thousand Dollars, law-
ful money of the United States of America, to be paid to the said Stephen H. Seamans, as such secre-
tary, or to his successors in office, in trust, neverthe-
less for the use and benefit of the individual members to be made the said corporation binds itself and its
successors firmly by these presents, and to which payment, well and truly to be made, the said surety
binds himself, his heirs, executors and administrators, an
presents.
In wit

## unto subscribed its corporate name, and affixed its corporate seal, and the said surety has hereunto set his hand and seal, this 14th day of

 his hand and seal, this 14th day of A pril. A. D. 1884 .Whereas the above bounden corporation having
expressly warranted all middlings purifiers sold by it, expressly warranted all middlings puriffers sold by it,
at any time, to members of the Millers' National
Association, aforesaid, and guaranteed at the time of Association, aforesaid, and guaranteed at the time of
such sale, to defend them against any infringement
of any letters patent, and being desirous of selling
its middlings purifers to membersef said of any letters patent, and being desirous of selling
its middlings purifiers to membersof said Association
upon the same conditions, the condition of this obligation is such, that, if the above bounden corpora-
tion shall well and truly indemnify and save harmless any and every member of the Millers' National
Association, aforesaid, who has already or may here
after purchase middlings puriflers from said corporation, fromall harm, damages, costs, suits, actions,
judgments and executions that shall or may at any time arise, come or be brought against him, or them,
or any of them, for any infringement or alleged in
fringement of fringement of certain letters patent, numbered
81,888 , issued to J. J. Gilbert, and bearing date about
the 8th day of September, 1888, for starch separator the 8th day of September, 1888, for starch separator,
without any fraud or other delay, thenthis obligation
to be void and of no effeet, otherwise to remain in to be void and of no
full foree and virtue.

The Geo. T. Smith My Geo smith pier C BY GEO. T. SMITH, President,
GEO. S. BENNETT, Secretar ALONZO BENNETT. W. D. THOMPSON. W. D. THOMPSON.
[SEAL
[SITHINGTON.
[SEAL] $]$

WM. H. DICKEY,
WM. K. GIBSON
This prompt action will not only renew, but greatly increase, the confidence of the milling public in the Geo. T. Smith Middlings
Purifier Company. It is setting a good Purifier Company. It is setting a good
example, that other manufacturers may folexample, that other manufacturers may fol-
low with profit to themselves, for in these low with profit to themselves, for in these
days of patent litigation millers want to feel days of patent litigation millers want to fee
secure when they buy patented machinery
Jonathan Mills, the well known inventor Cummer Engine Co., of Cleveland, O.

Messrs. C. H. Walcott \& Co., of Indiana are placing a new wheat cleanin Combined Grain Scourer, Polisher and Brush.

The Riverside Cable Code published by he Riverside Printing Co., Milwaukee, Wis. milling industry and commission merchants It is pronounced by able judges to be the best Cable Code in print. Price $\$ 2.00$ per copy.

The advantages of manufacturing to a city y disbursement of wages nowhere more manifested than in Milwaukee. The wages
paid at the Bay View Iron Works-part of paid at the Bay View Iron Works-part of
the North Chicago Rolling Mill Companythe North Chicago Rolling Mill Company-
for 1883, was $\$ 458,637$. The amount paid out for labor only, at Bay View since March 1878, when the N. C. R. Mill Co. took possession o
the works, to Jan. 1, 1884, was $\$ 4,064,233.05$.

A machine has been invented at Pittsburg for the manufacture of hob nails, the work hitherto having been done by hand, and a factory will shortly be established. It is the work of 100 men, and as the manufacture of hob nails by hand is engaged in by thousands of men at present, the invention will result in throwing out of employment a large number of men throughout the country has a capacity of a ton per day.

The Northwestern Miller says: Out of the wenty-three flour mills in Minneapolis, only two are exclusive roller mills-that is, mills hat do not use millstones. In overhauling the third quarter of the Washburn A, re-
cently, Head Miller McDaniels saw fit to put in four runs of stone. The millers, however unning the two mills which have all rolls, seem to be well satisfied with their machinery. In this connection a remark occurs to us
which was made within our hearing a few days which was made within our hearing a few days
ago by a second miller. Said he: "There is Inm a second miller. who to run this mill (we have rolls and stone); he was always in for all rolls. During the past year he has been in charge of an all-roller mill. The other day he was in here and casually remarked that what This all-roll craze is very well in theory, but it won't stand in practice.

The Case Manufacturing Co., have recently taken out thirteen patents on mill machinery and processes of making flour. Automatic Feed" ning to be regarded as the only perfect feed. They also cover in one of their patents a machine for splitting the wheat, and separating the germ, seam-dirt and broken what, all combined in one machine. These patents without the basis of extensive ligall machines whi as some of them cover broadr by others besides the Case Manufacturing Co The Case Manufacturing Co. are doing a very large and prosperous business, their used. Judging from the patents referred to above, the Company doubtless intend soon to ncrease their line of machinery by adding take pleasure in giving our readers full particulars as soon as we can.

## the roberts patent.

The Wheat Meal and Break Purifier Co. The Wheat Meal and Break Purifier Co.
of Washington, D. C. are now the owners of of Washington, D. C. are now the owners of
a patent issued July 10, 1877, to Charles M. a patent issued July 10, 1877, to Charles M.
Roberts, the broad claim of which is that "the device covers any method of manufacturing flour which subjects at any stage, or steps, of the meal, chop or groats before bolting, to the actio The opers for the purpose of purification. tenting into the Greenfied Columbia Mills, Greenfield Mills, Md.; the Columbia Mills, Georgetown, D. C.; and at
the mill at Maysville, Ky. The patentee, Roberts, died in Indianapolis, Jan'y, 1881 while in the service of The Nordyke \& Mar mon Co. Subsequently the owners of the patent introduced it in a Minneapolis mill They claim that the millers are infringing their patent, and propose to make settlements
with them for a reasonable consideration, and avoid going to law. The matter has been submitted to the Millers' National Associa tion's committee on patents, and a report wil be made in due time. We do not know whether a sound claim for infringement can be sustain ed on this patent or not, but it is certain that opinion will be soon rendered.

Philadelphia, at the present time, is the largest manufacturing city in the world, not ber of its manufactories are said to num 30,000 , and the number of the operatives in

MAN SHOULD UNDERSTAND THEORY AS WELL AS PRACTICE.
the Practical and Mechanical Engineers' Society of Chicago, March 28.1
No man can be said to be a practical workman unless he thoroughly understands the theory as well as the practice of his employment. Some men are content in the simple ing to study the whys and whout endeavoread to their production. Such workers accept without investigation the formulas of their trade, and do not aspire to a knowledge of the principles upon which these formulas est. They may be very these formulas their way; they may so far as their ins in diate tasks are concerned, be excellent workmen, but it is needless to say that they are not composed of the mater that they are the compot the of the material which makes the great, the rising, and progressive spirits tive controversy arose a few month instrucan English periose a few months since in an English periodical between a Sheffield steel-worker and one of the leading English the steel-maker who had lored the the steel-maker who had learned the expert higher authority on the question of steelhigher authority on the question of steel-
working than the men of science, who, although they could analyze the steel which though they could analyze the steel which
the Sheffield workman produced, and could tell him to an exactitude how much carbon it him to an exactitude how much carbon it contained, and what physical tests it could withstand, yet could not in actual practice vie with him in producing a finished quality of that most beautiful and serviceable metal.
The steel-maker insisted that the shopknowledge was more useful in a practical way than the knowledge procured from scientific treatises and in the laboratory. The metallurgist replied that however expert the of thaker may have become, his knowledge of the art at best must be limited, and that would still be better were his practical knowledge supplemented by a wide course of scientific study.
Practical men are too often inclined to look upon scientists as mere theorists, whom it is dangerous to follow, as though they were false teachers or mere visionaries. Perhaps there is a foundation for this belief. Many professing to be scientific teachers have shown themselves to be totally unfitted for their work. Lacking a proper education, or facts in making a proper application of the deed "blind leaders of the blind." But these are not true scientists, and they should no more be mentioned as representatives of the schools of science than should the merest sentatives of the schools of as fit repre Rembrandt or a Story were worthy and illustrious disciples.
The Sheffield artisan who would assert that Sir Henry Bessemer or a Siemens could not teach him something new in the art of steelegotist. He might know how to forge piece of steel into an artistic form, but he probably would not be able to tell what phy sical changes his process of forging has wrought in the piece of steel under manipulation. This Bessemer or Siemens could do ind could tell him also the limits of danger ing, or too heavy or too light forging. Perhaps the steel-worker has learned these thing in part, but he may have studied only comparatively few of the changes which the material he is engaged upon undergoes, and opened before him he is not able to success opened before him he is not able to success-
fully cope with it, until he has mastered the secret in that oldest of all schools, the school of experience, the tuition in which, we ar old, is so exceedingly costly
Nature's laws are exact, unchanging, uniersa. Once discovered, they are service able at all times and in all places. Two and two will always be four the universe over The fact that the presence of phosphorus in certain quantities in steel is deleterious is a
rule which will never change, and so with all the which will never change, and so with al the principles underlying the science of phys changeable truths, the discovery of which is of the highest importance to both the theoris and the man of practical experience.
The chemist is the right-hand man to the steel-maker. The one studies the steps and analyzes the productions of the other. He ew avenues in which the practical worke may accomplish his aim.
The machinist, in attempting to dress a ertain casting, finds that his tools grow rap the cause. Before him is the effect-broken r dulled tools. To find the remedy he must now the cause. Does he look for this alon his shop? He may not find it there. Anproduce a like result. What does he do? H possible, how the casting was made, and of what it is composed. Finding that it has too foundryman, he will, if desirable, hav his methods or in the materials of which the casting is composed. To ascertain how to properly order this change the aid of the metallurgist must be sought and the hand of practice must be assisted by the hand of science.
Do you say this course is not practical? It is pursued every day, not alone in the making brought into requisition in every branch is industry. Take the case of the manufacture of steel. Orders are sent to the steel-maker for a certain use and he make his-make correspond with such use. I quote from a recently publised use. I quote from a author pays. "Every steel-maker." The of the sams "Every steel-maker worthy to provide for any tool, or if it is a one or two trials are onough to and or two trials are enough to inform him nd as he always has all of his twenty odd tempers on hand, it is just as easy, and far more satisfactory to both parties, to have it Prof. Dudley, the chemist of the Pennsy vania road, after making a series of elaborate experiments, including every species almost of chemical and physical tests, has come to eonclusion that the proper thing to do, even in ordering steel rails, is to prescribe what percentage of carbon, manganese, and other properties they should contain; and while this is a somewhat open question, it goes to show that scientific information is the pathway to the best practical knowledge Can this be disputed? Will the mere engine tender place himself above Watt, or stephenson, or Corliss, or the score of modern engineers, whose wonderful mechanical pro ductions are the marvel of the age ? Will the ordinary machinist. even though he may be an excellent workman, place himself abov such master-spirits in the mechanical world as Clement, Maudslay, Sir Joseph Whit worth, or the many noted American machinists, represented by such establishments as that of Brown \& Sharp, William Sellers \& Co., and Pratt \& Whitney ?
What are the stepping stones to progress in the mechanic arts? Certainly not mere practice. Intelligent study and observation lead to higher results. The mechanic or artisan who would rise muststudy causes as well as results-must learn principles as well as methods-must look beneath as wel as upon the surface of his work. The me chanic who scoffs at science, who abhor study, who seeks only for present accomplish ments, who thinks that all there is in work consists of turning out the job before him and who cares not to ascertain how that work may be improved, or better substi tuted, will always lag in the race of pro gress. He may cling tenaciously to his rule of thumb methods, but he will see his brighter and more studious companions rise above him.

It is not contended that a study of the sciences will accomplish everything desired The schools of science may be said to be in heir infancy. Every day reveals some new aw to the metallurgist. Every ynar we find new processes developed in all the arts. The technical journals are teeming with informa tion of new discoveries, and registering new achievements in the world of letters and of cience. Railroads, steamships, telegraphs elephones, electrical apparatus, are all modern. But what of that? Because we cannot see a thousand miles shall we refuse to open our eyes to the beauty that is about us? Shal the humble workman refuse to study the books of science, because he may never know as much as Herschel or a Bacon? We should all remember that the world is filled with ruths. They are written in the rocks, in the unlight, in the clouds, on the ocean's waves, nd in the foliage of the trees. The air we reathe is an exponent of nature's laws. We may not grasp all these laws, nor learn all of the truths which fill the universe, but this oes not signify that we should glean none of them. One principle discovered by the sim lest learner is as much his as though he were savant or a prince. Could I speak to every worker in the land I would say study, Study thoroughly and deeply. Follow the teachin of the master minds-go to the same foun ains of inspiration from whence they drank The road they have traveled is opened to you. Do not be content to plod along aiming imply copying the work before you, but look to higheraccomplishments. Master your Learn the causes which promete success and knowing where these causes lead follow them to conclusion. Poverty is no bar to succes In the fields of scientifie research Neither is a life of labor nor lowliness of station Often the men who lead have been humbla poor and friendless. There is no aristocracy n nature Nor is ther itism the scripture says, "Knock and it shall be opened unto you," so he who knocks at

## THE UNITED STATES MILLER

## Written for the United States Millerr.]

## rye milling.

(Continued from April number.)
Having described a mill most suitable for grinding rye, it only remains for us to make a few remarks about grinding and bolting. It is impossible to prescribe a method which their own peculiar ideas on the subject.
Kernels of rye are small and of a more un Kernels of rye are small and of a more uni-
form size than wheat kernels unless the latter form size than wheat kernels unless the latter
is graded. When rye is ground on millstones which run parallel, the bran is peeled off almost whole, if the grain is in good condition The positive distance between the stones does The positive distance between the stones does not puiverize the bran and only so much four off by reason of the breaking of the inside of the kernel.
After grinding send the resulting chop to a scalping reel with wire cloth, the upper half for flour and fine middlings and the lower one for coarse middlings. Let the bran tail over.
If the miller has'a purifier for rye flour it is If the miller has a puriner for rye flour it is needless here to tell him how to use it, but if
he has not got one, for this purpose he may he has not got one, for this purpose he may help him, in the following manner:
The drawing herewith, shows a kind of a blow-spout with a fan attached; $a$ is the feed board with strips on it to spread the middlings as evenly as possible, from which it falls dlings as evenly as possible, from which a forut
into the spout. The side boards may be about 1 into the spout. The side, and the spout from 2 to 3 feet wide. 1 foot wide, and the spout from 2 to 3 feet wide. the length of the side board, and the tail end the length of the side board, and the tail end
from $b$ to $c$ is covered on the sides and top from $b$ to $c$ is covered on the sides and top
with cloth to let the air out and keep the with clo
dust in.
To arrange the hopper spouts to meet the ideas of the miller using this apparatus, it is best to make a full, board bottom, crosswise on the under side of the spout, of matched
flooring, and fasten with screws, also the top flooring, and in the same way; then, set the fan in board in the same way; then, set the red the bot-
motion and let the feed run in until then tom is filled up a few inches thick. Then, stop the feed and blast; take off some of the top boards and mark where the division may be made; make the same trial over again, with more or less blast, and according to the result obtained, put the hopper spouts under it. Of course ing by give or less blast any time by giving more or less blast.
Where room is scarce the blow-spout may be placed up under the joist and fastened there on a few hangers, and the spouts leading from it directed so that they may be the most out of the way, perhaps near the wall
The work may be done by any joiner that has The work may be done by any joiner that has
some knowledge of mill work. There is no some knowledge of mill work. There is no patent on this device and all are welcome to it This device will do considerable separating and cleaning, as it will remove the fine bran particles and separate two kinds or midangs The miller can operate on sear it will be sired, or may grind it together. It will be of short of purifying capacity. If the middlings are run through this apparatus before it goe to the purifier more work can be done on the purifier.
The miller must use his discretion as to the amount of white flour he takes from the mid dlings. The more white flour he takes out the darker the second flour will be. This he must regulate according to the demands of his customers. The_clear middlings flour will furnish bread almost as white as the ordinary bakers' bread made from wheat flour, and such bread properly baked and served in smal loaves is simply delicious.

## area and condition of wheat.

The April returns of the Department of Agriculture make the winter wheat area about $27,600,000$ acres. This is nearly the breadth 5 sown of the previous crop, of which 6 per cent. was subsequently plowed up, leaving $26,400,000$ acres to be harvested. Comparing with the area harvested, the present breadth is an increase of 5 per cent. The present area is greater than that of the census year by more than $2,000,100$ acres. The increase is about $1,500,000$ on the Pacific coast and nearly 750,000 acres in the Southern States There is a small increase in the Middle St and a slight decrease in the Ohio basin.
The condition of wheat averages $95,100 \mathrm{rep}$ and medium average was 80, and 85 in April, 1881. The April average of the large crop of 1882 was 104. The State averages are as follows: Con necticut, 100; New York, 97; New Jersey, 95 102; Virginia, 101; North Carolina, 102; South Carolina, 97 ; Georgia, 91 ; Alabama, 88 ;Mississippi, 92; Texas, 101; Arkansas,81; Tennessee 98; West Virginia, 100; Kentucky, 98; Ohio 88; Michigan, 94; Indiana, 92; ITinois, 82
Missouri, 91; Kansas, 101; California, 101 Oregon, 102.
In Michigan, New York, and Connecticut the fields were protected with snow on the 1st of April, in some places a foot in depth. Subsequent condition will depend on the weather

No serious winter killing is reported ex-
cept in Alabama. On low and wet areas some injury is reported throughout the entire
breadth.
The superior condition of drilled wheat is ttested almost without exception.

Mulhall's Dictionary of Statistics the pictures the growth of manufactures of American manufactures in 1850, $\$ 1,060,010,-$ 000 ; in $1860, \$ 1,970,000,000$; in $1870, \$ 4,230$,000,000 ; in 1880, $5,560,000,000$. In 1860 the value of manufactures per inhabitant was
$\$ 61.75$; in $1880, \$ 110$. In 1850 the number of $\$ 61.75 ;$ in $1880, \$ 110$. In 1850 the number of kinds was 957,000 ; in 1860, 1,311,000; in 1870 , $2,054,000 ;$ in $1880,2.739,000$. In 1850 the wages paid were $\$ 254,000,000$; in $1860, \$ 400,000,000$; in $1870, \$ 805,000,000$; in $1880, \$ 990,000,000$. 1850 the capital invested in manufactures was $\$ 550,000,000 ;$ in $1860, \$ 1,040,000,000$; in 1870 , $\$ 2,205,000,000$; in $1880, \$ 2,405,000,000$. These statistics are taken from the census reports, and are approximately correct. At the present factured products than any other nation in the world-the total in 1880, as above given, being $\$ 5,560,000,000$, while those of Great By the same authority the total industries of the United States in 1880 were worth $\$ 11,405,000,000$; those of Great Britain, $\$ 9$,$200,000,000$; those of France, $\$ 6,840,000,000$, and those of Russia, $\$ 4,650,000,000$." These figures show how rapidly the country has progressed from an agricultural to a great fact remains community; and the great not lost our agricultural predominance. have combined the two elements until now we are the great agricultural and manufacturing country of the world.

Changes in Flour.-Balland discusses changes of flour in a paper contributed to
change by storing the two different qualities fine flour alone keeps well, and the other which does not keep so well, is always used Zeitung.

## NONSENSE.

Irish Wit.-An Irish gentleman called on an "minent singing-master to inquire his terms.

I charge two guineas for the first lesson; but only one guin
please afterward."
"Oh, bother the first lesson then." said the other; "let us begin at once with the second." Another native of the Green Isle exhibited an equal comprehension of economic possibilities when he went to have his bans of marriage proclaimed. In answer to the inquiry as to the cost, the registrar told him that the fees for being proclaimed in one day was ten shillings; for two proclamations it was five shillings; for three times it was half a crown

Bedad," said the Irishman, "but that's an illigant arrangement. You can just go on proclaiming me and Biddy till there's nothing to pay at all."
On another occasion at a military dinner in Ireland, the following was on the toast-list: "May the man who has lost one eye in the glorious service of his beloved country, never see distress with the other." But the person whose duty it was to read the toast accidentally omitted the important word "distress," which completely changed the sentiment and caused no end of merriment at the blunder. Tiring Him Out.-Mamma-I met young Mr. Nicefellow on the street to-day and told come and see you, he should remember that you were young and needed plenty of sleep Nellie-And what did he say?
Mamma-He shocked me awfully by insistng that you kept him from going.
Nellie-Oh the great big story teller! I tried

tains a ferment which seems to be situated and has the properties of organic ferment It is able to endure a temperature of $212^{\circ}$ Fahr., when dry. but is destroyed by boiling
water. Both warmth and moisture are absolutely essential toits development and growth; a damp heat of $77^{\circ}$ Fahr. is the most favorable. It acts upon the gluten liquefying.
In a properly constructed mill the greater In a properly constructed mill the greater and the better the flour is bolted, the less of the ferment it will contain. If the mill grinds too hard or runs too fast more of it passes into the flour, hence the changes noticed in what is called flour that has heated
The acid noticed in old flour is not the cause of the gluten decreasing, but the result of $i$ it.
Investigations upon gluten have not ye cleared up its mysteries. It seems to con-
tain variable quantities of water and there tain variable quantities of water and sere which prevent its balling together; while thers, like dilute acetic acid, directly favor it The gluten in flour heated to steam-hea retains its properties. The action of thi ferment is retarded, but not prevented, by lack of water; as soon as water and heat are
applied, it recovers its original properties.
The following conditions must be observe in making flour to have it keep well: It must be sound flour from hard, dry grain, which must be well hulled in properly constructed mills and thoroughly bolted. It must be kep in a place that is completely protected from heat and moisture. The French war depart ment use air-tight metallic boxes for keeping hour in fortresses. Only flour from dry grain and the first grinding is used.
While engaged in this investigation the author has satisfied himself that the French military use the finest flour, to which, however, is added 12 to 18 per cent. from the second grinding, which corresponds to the legal requirements. This latter is a source of change, and yet we cannot entirely avoi making use of the second milling, for it is in the second grinding that the very nutritious bran. But we can provide against thi

Mam
Mamma-Tried to tire him out! Why, how Nellie-By sitting on his lap
One Flesh.-Doctor-Have you got the Patient the ague ye

## Patient-N iver, sor.

Doctor-Di
prescribed:
all.
Doctor-That is strange! You took it ac ording to the directions, I suppose

## Patient-Y is wife are one.

## Doctor-What has that to do with it

Patient-Well, ye see, sor, bein' as we ar ne flesh, I tuk the whisky and gave Biddy the imine.-Philadelphia Cull.
Having made his will, Mr. Barnum wa ately asked if he thought he would go to heaven when he dies. "I don't see why not,"
was the characteristic reply of the great ad was the characteristic reply of the great ad-
vertiser. "I think I have the best show of nybody on earth."
A Colorado Location.-A prospector who struck a lead in the Gunnison country not long ago, posted the following notice: "The
undersigned claims this lede with all its driffs, spurs, angels, sinosities, etc., etc., from thi staik a 100 fete in each direction, the same be ing a silver bearing load, and warning is here y given to awl persons to keepe away at their laim will be persucuted to the full extent of the law. This is no monkey talc butt I will assert my rites at the pint of the sicks shuter if legally Necessary so taik head and good warnin. Accordin to law I post This Notiss -John Searle."
Didn't Stand in the Way.-"Of what did your father die "" asked the insurance examiner. "Dropsy," replied the young man in faitering tones. "H'm," said the examhoped not and nervously tried to change the subject, but was at last cornered and compelled to admit that his father had the dropsy out in Arizona, and that when he dropped he didn't get all the way down, and there wa
nothing for him to light on. But the insurance man seemed to be greatly relieved and said there was nothing in that to stand in the way of his getting a policy.-Burlington Hawkeye. Life amone the Mormons.- "Are you. lady of her husband.

Yes," he replied. "I shall call on Miss Smith."

I owe Miss Smith a call myself," she said, thing for us to go together
"Hardly," responded the husband.-Philadelphia Call.
In a Hurry to Have It Settled.-"Is my husband any better?" she asked, intercepting the doctor in the hallway, on his way
"I thi
" think he is a little easier this morning." "You can't say positively, I suppose whether he will live or die?"

I cannot."
"Well, I'm sorry for that, because I'm a delegate to a woman's rights convention that meets next week, and I'd like to have the matter settled before I go."-Brooklyn Eagle.
Evidently an Ohio Man.-"Please, sir, can't you give me an old coat?" asked a mendicant of a wealthy merchant. As the mendicant had formerly been
the merchant, the latter said: the merchant, the latter said
ourself out a $\$ 12$ suit, for it."
The mendicant did as he was told. Taking the clothing store man to one side he said to him: "That old duffer sent me over to pick me have my commission, so I, too, will make me have my commission, so I,
something by this little trade.'
Will Probably Hit It.-He was a Chicago manufacturer of butterine. He reached home from a trip down South, and entered his office with the remark to his partner:

Smith, all is lost
"Why, we have got to use at least 10 per cent. of pure butter in our article, or find ourselves driven from the Southern market."
"Is that all? Then cheer up. If we must increase the per cent. of butter from five to ten, let us find a substitute for the tallow. Let us experiment with asphalt or glue ?"
They Dissolved.-Twenty years ago two
Detroit attorneys, both of whom are still living to-day and pleading for criminals entangled in the meshes of law, were returning from Pontiac by the highway. About nine o'clock in the evening they were stopped by a highwayman some three miles from the city, and at the command of "Your money or your life" both shelled out. That is, one of the pair handed out two or three dollars in wildcat money, while the other was robbed Both were highly indignant, and the one who lost most at once set the sheriff after the robber and soon had him in jail. He had made the complaint individually, and a few days before the trial was to come off he remarked to his partner
"I suppose I shall have to summon you as a witnes
$\mathrm{N}-\mathrm{o}$, I think not," was the reply
"What! It wasn't a week ago that you said you could pick him out of 10,000 !" "Yes, but he has since employed me as his

Would you take his case against me when you, too, were robbed ?" asked the complainant, as his face grew whiter than moonlight. Why not: You've lost your money anyhow, while he will give me $\$ 75$ to clear him
If you have any witnesses you'd better hunt em up, as we are prepared to prove an alibi. When the trial was called the defendant had no trouble in proving by his own lawyer that it was a case of mistaken identity, and those attorneys have never spoken to each other since.-Detroit Free Press.
Once when thieves entered the rectory, aking everything of value that they could lowing epigram

## owing epigram



After A Pension. - "Well, Pat," wa sked of a recently-arrived emigrant, "and how do you like America ?
"It is a foine counthry, sor "
Have you succeeded in getting work yet ?" *No, sor; but I have a frind in Washington who is after getting me a pension."-Philedelphia Call.


United States Miller.
PUBLISHED MONTHLY. Subscription Price............81 per year in advance
Foreign Subscription

MILWAUKEE, MAY, 1884.

## announcement

 land, are authorized to reecive subseriptions for the UNITED states Mulekr.

We send out monthly a large number of sam-
ple coples of the UNITED STATES nILLER to ple coples of the UNITED STATES MMLLER to
millers who are not subscribers. We wish them to consider the recelpt of a sample copy as a
cordial invitation to them to become regular stamps, and we will send THE UNITED STATES TFT The United States Consuls in various parts of the world who receive this paper, will please oblige the pubishers and manufacturers advertisbe seen by those parties seeking such information
as it may contain. We shall be highly gratified as it may contain. We shall be highly gratified
to receice communications for publication from to receive communications for publication from
Consuls or Consular Agents everyvhere. and we believe that such letters will be read with interest and will be highly appreciated.
 son Cawker, of Milwaukee, Wis., and sold for (810.00
ten dollars per copp, is now ready for delivery It
shows the result of an immense amount of labor shows the result of an immense amount of labor
careful inquiry and studious attention to details. is without doubt the most accurate trade directory
ever published, and will be of untold value to those desiring to reach the milling industry of A America.
We glean from this neat volume of 200 pages conWe plean from this neat volume of seo pages con-
taning no advertisements, that there are in the the
United States of America and our neighboring Dominion of Canada e5, 0.50 flouring mills, taking them a
they go great and small. The work indicates in abour 10,000 i It further ind the capacity in barrels of flour per day
and rice minnmeal. buckwheat rye-flour and rice mills. It shows that the number or med.lllis sin
the various states and territories of the United State

 tucky 733; Louisiana 61; Maine 280; Maryland 353 )
 ka 250; Nevada 13; New Hampshire 182; New Jersey
442, New Mexico ozi, Now York 1920. North Corolina
848; Ohio 143; Oregon 145; Pennsylvania 3142; Rhode TiO3; Ctah 110; Vermont 247; Virginia 781; Washingto
Territory 61; West Virginia 447; Wisconsin 7 TI Territory ${ }^{6}$ 61,
Wyoming
In the
follows: British Collambia 17 , we find the record a Brunswick 198; Nova Scotia 102; Ontario 11150.
Edward's Island 39; Quebee 531. Total 2 2,050. Edward siand
Taking the work throughout, and it is highly in teresting to all concerned in the trade, and we tak
pleasure in recommending it.

## IT IS FINISHED.

Cawker's American Flour Mill an Mill Furnishers' Directory for

Is now Ready for Delivery.
It contains 25,050 addresses.
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It is the best trade directory ever published.
Its price to everybody is Ten Dollars per copy, without discount. Sent by mail anywhere.

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E. HARRISON CAWKER,

116 and 118 Grand Avenue,

> Milwaukee, Wis.

Hon. Geo. A. Pillsbury, of the milling
firm C. A. Pillsbury \& Co., has been elected Mayor of Minneapolis, Minn

Engineers on the New York Central Rail-
road are forbidden to drink intoxicating liquor either when they are on or off duty.

Millersin need of grain-cleaning machinery should not fail to read the new advertisement in this issue,
of Rock Falls, 111

The prominence of the silver coinage question makes peculiarly timely the paper on "The Bank of England," which is announced for the May Harper's. It is to give a clear of this centre of the financial world.

Jesse Dorman, Esq., formerly of The
Miller and Milluright, of Cincinnati, and later of the Denver Press, called on us recently.

A Consider able number of millers from different parts of the country are takin
trips to the Pacific coast with a view of permanent location.

The convention of $A$ merican inventors has after making preparationsed and adjourned welfare of the interests of inventors.

Some foreign flour importers have recently complained of the poor quality of sacks in poor economy to ship goods in poor packages.

The following table gives the amount of starch contained in the different kinds of grain: Wheat 67.88 per cent.; Rye 64.65 . Oats 60.59; Barley 66.43;
Beans 37.30; Peas 33.00.

Arrangements have been made to extend he Wisconsin Central Railroad from Chip pewa Falls, Wis., to St. Paul, Minn., during Milwaukee another through This will give

WE have received a copy of the 1884 catalogue of the Richmond Manufacturing Co., of Lockport, N. Y. It is a handsome one, and illustrates and describes perfectly the variou
kinds of grain cleaning machinery made by the Company.

Edward C. Notbohm, Esq., called on us recently. He has just returned from a trip eenselling flour for the Eagle Mills, Mil has kee, of which Messrs, J. B. A. Kern \& Son are proprietors.

The Consolidated Middlings Purifier Co. of Jackson, Mich., have effected a settlement with the Dominion Millers Association on the basis of $\$ 30$ per machine used by members. Canadian millers outside the Association with the Purifier Company.

The Northwestern Miller very wisely urge that the United States Agricultural Depart ment should be presided over by a practical Department of Manufactures be established. It will be done sooner or later, and in our mind, the sooner the better.

The Western Supply Co., of Milwaukee is furnishing to boiler users a safe and reliale article called the "Standard Boiler Purge.' The manufacturers guarantee it to remove all Weale without foaming or injury to the plate for several months and it gives satisfaction.

Saskatchewan wheat is having a boom his season. The fame of its productiveness in the fertile valley of the Far Northwest is
known far and wide. It has taken the premium wherever shown as the best hard milling wheat. In many of the States it has een tested with marked success. It will have a far wider trial this year.
Brother Palmer, publisher of our esteemed contemporary, The Northwestern Miller, made us a pleasant call April 25 . He is
on his way, accompanied by his wife, to on his way, accompanied by his wife, to
Europe, where he will arrive in time to be Europe, where he will arrive in time to be
present at the meeting of the British and present at the meeting of the British and
Irish Millers' Association. He proposes to Irish Millers' Association. He propor
return early in August. Bon voyage.

We have received from the publisher, Wm. A. Harris, manufacturer of the Harris-Corliss Engine, of Providence, R. I., a book entitled "A Pocket Manual for Engineers," by John
W. Hill, M. E. It is brimful of condensed W. Hill, M. E. It is brimful of condensed facts and figures for practical use. All engineers and mechanics will find it of much value. The price is $\$ 1.50$ per copy.

The alarming outbreak of the cholera in India is causing the French maritime authorities to adopt precautionary measures of quarantine and vessel inspection. England and the other powers will no doubt do likewise, and no doubt, if the disease should become very serious, it will materially affect the exports of wheat from India for the present year.

James Riddell, of Miami, Manitoba, says that wheat can be raised there for $\$ 2.40$ per quarter ( 8 bushels) and can be delivered in Glasgow or Liverpool for $\$ 6.18$ per quarter, which includes cost of production and transportation. Manitoba farmers believe that competition of the wheat-fields of India.

IT is stated that a British steamer will be ascertain what difficulties will be encountered
nd what facilities will be afforded for com t will not be very surprising to hear a few years hence of grain and stock from the Nothwestern States and Territories finding their way through Hudson's Bay to European markets.
The stockholders of the firm of Ganz \& Co Budapest,Austria-Hungary, met at Budapes March 2, and a correspondent of the United
States Miller furnishes us with some of States Miller furnishes us with some of
the principal items in the report which was read at the meeting.
Ganz \& Co. manufactured and sold during the year 1883, 21,721 large, chilled-iron railway wheels,and 10,359 small wheels; 3,270 crossing for railways; 1,772 roller-mills; $3,007,944$ kilo grams of sundry hardware articles; 1,909 cars or railways; 46 electric-light plants with 8 rc-lamps, and 4,987 incandescent lamps. The net profit was 509,218 florins ( $\$ 212,175$, afte deducting $\$ 48,100$ for depreciation of machin ery. The shareholders received a dividend of 0 florins ( $\$ 20$ ) per share, the par value of share being 400 florins. The present market value of a share is 1005 florins. This, togethor with the fact that the works are annually increasing in value, and the dividends constantly increasing, shows the great confidence the public have in the solidity of the firm To the reserve fund has been added 149,86 orins and 20,000 florins to the fund for the enefit of disabled employes. Our corre pondent says that the Ganz (Mechwart) Ring Roller Mills are built with belt drive when specially ordered. Patents were issued in 1875 to Adolphe Fischer and Adr. Mechwart for belt-drive for roller-mills, but Continental millers did not generally adopt it, believing that there was no advantage except in the matter of noise, and that gear-driven roller mins were more exact and gave better result tent for roller-mills driven by belt.

## A NEW GRAIN TESTER.

Nobbe, of Berlin, Germany, has invented a tester for measuring grain, by which the contents of a bag can be exactly determined without emptying it out. It also serves for taking sanples from any part of the bag, that may be desired. The tester is thrust to the bottom of the bag, when by turning a knob at the upper end, three cavities on different parts of the stick are opened. If now the stick is shaken lightly, the grain enters these cavities and is withdrawn together with the tester. As it frequently happens that grain offered for sale in bags, is not throughout of the same quality, this apparatus may be used to great advantage.

## utilization of refuse in mills

At present the milling refuse is employed as food for cattle, but a thorough examination has shown that it contains a large quantity of starch, viz: refuse of wheat-flour 45 to 57 per cent., bran and midulings of rye 60.02 per cent., middlings of barley 66.4, and bran of the same 50.9 per cent. of starch. All these might with advantage, if not by themselves, at least mixed with corn, be used for the manufacture of alcohol ; but, according to experiments already made, it would be necessary to soak them several hours in water in order to soften the considerable quantity of woody fibres which they contain.

## MILL-STONE CEMENT OF MAGNESITE

For repairing damaged mill stones a cement made from magnesite in the following manner, is recommended:
Mix the required amount of burnt and finey powdered magnesite with a concentrated solution of chloride of magnesium to the consistency of stiff putty. Add to this two or three times as much crushed flint and knead the whole mass thoroughly. Clean the holes and fissures in the stone nicely and apply the solution with a brush. Then fill the holes with cement and beat it in thoroughly with a stick or a piece of iron. If the stones are warm from milling, the cement will harden in 6 or 8 hours; but when the stones are cold the hardening process may be hastened by putting heated bricks over the cemented parts. If the fissures in the stone should be deep, they must be cleaned out as far as pos sible, and a thin cement, made without a mix ture of flint, poured in and made to penetrat by pressing it in with a dull knife blade. It there is a large hole in the stone, it can be mended by filling it with thin cement, and pressing down a pieee of flint, which fits the hole as closely as practicable.

FOREIGN DEMAND FOR AMERICAN GRAIN.
The President sent to the Senate, April 23, a report from the Secretary of State, in reply formation as of the Senate, requesting in sumption, exportation, and importation of wheat, rye, corn and cotton in foreign countries, their probable requirements of such products from the United States before the crops of the coming year are ready, and other demand for the grain and cotton products of
the United States. The Secretary, in his report, says: "The calculations and estimates submitted prove, so far as statistics can prove under the circumstances, that the stock of wheat on hand in Europe at the close of 1883 hand at the close of the previous year; that the wants of Europe are as imperative and as great as they were in 1833, and that the demands upon the United States should natually be as great as they were in 1883. How long Europe may or can draw upon her reerve stock, or what are the exact considerations which control the several countries, especially the United Kingdom, which may world, time only can develop," markets of the Mostliberal allowance for the wheat output necessary to the world's orsumption shows that the United States should be drawn upon the present year for $177,000,000$ bushels, in round numbers against $108,000,000$ bushels from number agill thus appears that the Unitel States, It f being controlled by, should be able to con rol for mata "-

A Long Straight Edge.-An absolutely xact straight edge of more than thirty-six nches is a wonder of mechanism. One of six eet was not recently believed possible, alhough several had been made on different lans of web-like and truss construction. It has been claimed, however, that almost exactness has been secured by a straight edge twelve feet ong. The appliance looks like an arched russ, the highest spring of the arch being only twenty inches in a length of twelve feet. The space between the cord and spring is flled with diagonal lattice work. Three of maining in the establishment made, one reand two the estabhshment where built and two going to technical colleges. Each of
them has been tested by each other, and them has been tested by each other, and
proved to be practically perfect.-Scientific American.

## THE WORLD'S WHEAT.

Gerold, of San Francisco, gives the following as estimates of the world's wheat producion, in tons of $2,000 \mathrm{lbs}$. each
Countries.
$\begin{aligned} & \text { United States (Paciflc Slope).. .. } 2,000,000 \\ & \text { United States }\end{aligned} \begin{array}{r}\text { Tons. }\end{array}$ (p,000,000 United States (proper).............13,000,000
France........................................050,0
15,000, Russia...
Italy, Spain, Algie
Austria-Hungary
Austria-Hungar
Great Britain..
Germany, Holland, ete.
Ottoman Empire,

## Australa. Canada. Egypt.

Egypt..... ....
Chili, Peru, ete
Argentine Republic, La Plata, ete.
South Africa, Brazil and sudre
Total..
While t
While the United States can spare fully one-third of its wheat for export, requiring only two-thirds for home consumption, the total annual requirements of the countries of Europe above their own production are abou $3,900,000$ tons for the United Kingdom, 2,600, 000 tons for France and $3,800,000$ for other European states-i. e., in all, $10,000,000$ tons Of the latter quantity over 60 per cent. (i .e. $5,800,000$ tons) was furnished so recently as 1881 by shipments from the United States and the remaining 40 per cent. (i. e., $4,200,000$ tons) was furnished by Russia, Australia, India and other countries.
Dangers of Moldy Bread.-A singular case of poisoning from eatingla pudding made in part of moldy bread is reported in the Sanitary Record. The main facts of the cas may be briefly stated as follows:-The prin cipal materials of the pudding consisted of scraps of bread left from making toast and sandwiches, and they had been about three weeks accumulating. To these scraps were added milk, eggs, sugar, currants and nut meg. The whole was baked in a very slow oven and was subsequently eaten by the cook the proprietor of the eating house in which it was prepared, the children of the proprietor and two other persons. All of these became violently ill, with symptoms of irritant poisoning. One of the children (aged three years) and one of the adults died. The necropsy of the body of the child caused the medical men to suspect poisoning, and ac cordingly the viscera, together with the rem nant of the pudding, the materials used in making it, the matter vomited, etc., wer sent to a chemical analyst, Mr. Alfred Allen for examination. He made tests for several poisons, but without positive result. A puppy was fed with the pudding for two days with out any poisonous effect. He was then led to look for ergot in the pudding, and was soon startled to find unquestionable evidence of its presence, as far as the chemical reac tions went, though he was unable, with the aid of the microscope, to detect any actual ergot. From these facts Mr. Allen infers peculiar to ergot are common to other poisonous fungi.

THE UNITED STATES MILLER.

## [Written for the United Stitrks Mllekr.]

By John W. Hinton, of Milwaukee.
No member of congress has been more
prominently before the American people, as an advocate of free trade, for some time past than has the Hon. Abram S. Hewitt, who occupies the dual position of representative and manufacturer.
His respectable connection, as the son-inlaw of the deceased Peter Cooper, the great
American protectionist and philanthropist, American protectionist and philanthropist,
give to his utterances, more attention than give to his utterances, more attention than
they would otherwise command. Mr. Hewitt is now rarely correct, never logical, his mind having changed so much, that his assertions are contradietory and diametrically opposite
to his statements of a few years ago to his statements of a few years ago. a physician was called to diagnose h case he would term it "mental aberration," and that his patient was laboring under a species of lunacy.
We are not censuring Mr. H. for this
peculiarity of his present condition; it is well known that all sublunary bodies are liable to mutation. We simply note the changes. Mr. Hewitt in his speech March 26, 1884, the House of Representatives, says
not a the present day not a single enlightened nation taxation upom the work of production, except the
United States."
The speech, from which the above extract is made, was delivered on the "whisky extension" matter. In vino veritas is an old a contrary effect?
The facts are that there is not a single enlightened nation, not a single commercial nation: but what does "impose tariff taxes
upon the work of production" of other countries, whenever they arrive at the port of entry of that country to compete with the labor of that country.
Even England taxes raw materials, products not yet manufactured, lightly, it is true, but her tariff duties increase rapidly, as that raw material is partly or in whole manufree trade fireworks, drew largely on Dr Squibs in favor of "abolishing the whisky tax," making no allusion to England, to some nation," who possibly to please Mr. Hewitt, nation," who possibly to please Mr. Hewitt, whisky free, that is, remove her import tax upon our "work of production."
Mr. Hewitt says:
does not refer itself to economic principles is out of
place, all appeals to sentiment, to passion, to emotion place, all appeals to sentiment, to passion, to emotion,
are a mistake." charity or principles which have been settled by the experience
of mankind and are written on the pages of the

## Mr. H. continues

## which human labor exerts itself, then it is a direct

 tax and imposition upon the work of production.Hence in England, in France, in Germany, in Italy, n every country that holds a in conspicuous place in the progress of modern civilization, raw materials
are admitted as free as the air which the people
breathe. But here meathe. But here they are met by obstructions the
moment they come within the marine league-within moment they come within the marine league-within
the sight of this land of free thought and free govern-
We are sorry to differ with Mr. Hewitt, but no one knows better than he does, that,
if he should attempt to take a barrel of that "whisky" he alluded to into England, in the night time, or even the day time, he would have to do one of two things, either pay the duty, the tax, on it, or have it confiscated and himself be liable to arrest, fine or imprisonment for "attempting
Such is the "economic principle" pertaining England.
As to whether the laws of England, the
taxes on whisky, are founded on "charity or morality," Mr. H. can determine for himself. Certainly they have been "settled by the experience" of English statesmen and "are written
And whenever Mr. Hewitt makes the attempt to land his American whisky on the barque escape the vigilant eye of the coast guardsman stationed on Shakspeare's Cliff near Dover, who, with a powerful spy-glass, continually sweeps the channel to detect the obstructions" of a revenue cutter, that would speedily take care of Mr. Hewitt and paid the duty and was desirous of H. had his friends of the Cobden Club with "Bourbon" from a silver goblet of American make,

## tax him "thirty-seven and a half cents an

 tax him "thirty-seven and a half cents an
## into England.

To show how Mr. Hewitt has changed his views, we append a couple of extracts from
his report as U. S. Commissioner to the Paris
dition of labor in Europe, he said first o
France: France:
laboring man and the united labor of his wife tha children to keep his family in existence; and it is
in have meat but once a week; and any ehange in th
cond condition of affairs, involving a change in the re muneration paid to the common laborer, wou'd put
it out of the power of the iron-masters of France to carry on the business in competition with Belgium
and England in the absence of a higher tariff on im-
ports ports. The existence of the fron business in France,
therefore, as a national branch of industry may be said to rest upon the elementary condition of giving
meat once a week only to the great mass of laborers In are engaged in production.
In Belgium substantially the

Mr. Hewitt reported of the labor in Wales, England and Scotland.
"As a general rule, the labor of the women and
children is required in order to eke out the subsistence of the family. In Wales, women are exten
sively employed in the works, sively employed in the works, doing the labor for
which a man would be required in America, and earn-
ing which a man would be required in America, and earn
ing from ten pence to one shilling three pence perday,
or rather less than or rather less than half the wages that would be paid
to a man for the same amount of labor, which the to a man for the same
perform equally as well.
"In Staffordshire, and in the North of England and in scotland, women and children are still extensively
employed above ground about the mines and around the coal heaps at the mouth of the pits, the substanfamily is procured for the sum of which would b paid to its male head if he alone labored for the sup
port of the family, of course at a far lower cost in the port of the family, of course at a far lower cost in th
resulting production of fron than would otherwise be "But i
the women and children were altogethe drawn from those occupations, as they are in the
United States, it would not be possible to produce iron except at a considerable advance in the price o
labor."
Significant indeed is that last sentence: "i
the women and children were altogether drawn from the manufacture of iron in England." In other words, if "charity and moral ity" governed the labor of England as it does the labor of America, and women and children were kept from such brutalizing labor as
they are in America, English iron would cost advance in the price of labor."
Now what did Mr. Hewitt
Now what did Mr. Hewitt say in his lette to Jay Gould, January 27, 1870, three years after his report as United States Commis
sioner in 1867: sioner in 1867:
"Free-trade will simply reduce the wages of labo
to the foreign standard which will enable us to sel our rails in competition with will enable us to sel matter of course, the ability of the laborer to con
sume will be reduced, sume will be reduced, and a serious loss will be in-
filieted on commeroe and general industry, and the business of railways especially.
The only reason why a
The only reason why a tariff is necessary is to sup-
ply the laborer with such wages as will enable him
to travel and consume not merely the necessaries but some of the luxuries of modern civilization."
It would seem that the sympathy which Mr. Hewitt had for the American laborer in Then again, it is well to remember what Mr. Hewitt said to a gathering of working men in Trenton, New Jersey, while smarting under disappointment, because an English agent owing to the "cheap labor of men, women and children in England making iron"-underbid him and got the contract:
pose of securing a contract for rails, in forder to pur offered to make the rails at thesent contract runs out they could be made at the present rate of wages. An
English agent came there, and underbid me, and got the contract. Thus for the want of a protective system
is the money sent to England, to employ English work-
men, that ought to have come here to employ you. Estabmen, that ought to have come here to employ you. Estab
lishments properly located, and managed with proper
skill and economy, have been compelled to suspend work throughout the land."
It may seem harsh to say it, but we are almost forced to the conclusion that Mr. Hewitt, himself an American manufacturer of iron and steel, is desirous of forcing down those of France, etc., where, as he said, and that from his own personal observation, "the existence of the business rests upon the week only to the great mass of laborers who are engaged in its production.'
"Nor ought we to be charged with want of charity or morality," after reading Mr Hewitt's exposition of his "economic principles," if we incline to the belief that the Trenton would be delighted at the labor of ments could be the one in the Dublin Freeman's Journal appearing January 15, 1882:
"Wanted.-Strong, humble girl to assist in mind-
ing children and gofng of errands and messages; age
i5; 88 per quarter. Apply at 59 Harcourt Street, 11
Sixty-four cents a month for a girl's wages, fifteen years of age, humble and strong-how particular as to qualities !!
Sad will be the day in America when such girls-through Mr. Hewitt's free trade theories, which he avers are void of "charity or morality"-have to work for sixty-four Mr. Hewitt says:
maker, knowing its vast uses, $I$ am
of the production of aloohol, is the-most useful to
he human race. Yet if any man to-day were to po

## ron, he would be hooted, etc., ete Mr. H. has the faculty

funny at time faculty of being mysteriously pig iron, we quote what was said by a men ber of the British Parliment said by a mem the Cobden Clubalso, about three years since, at a meeting in Manchester, England:
"If America would remove her tariff of $2984 d$ on
ur iron, we should be able to close every iron work
(The duty on a ton of foreign pig iron wa hen seven dollars.
Mr. Hewitt says:
"The Constitution under which I have been brought
"p, and have sworn to obey, declares that taxation is
or revenue and for revenue only."
Has Mr. Hewitt overlooked the fact that of the enactors of the Tariff Act of July 4th 789, which was introduced by James Madison, and was for the "encouragement and
protection of American manufactures" eighteen were members of the convention which formed the Constitution, ten Senators and eight Representatives.
Nor ought Mr. Hewitt to forget the fact tha he framers of our Constitution publicly an ounced to the world that they were guide "charity and morality," stating
"Let ind bo remembered that it has ever been the
As we have said many times on
we repeat here
Our government was formed in violation of all known governmental precedents or eco
nomic principles in use among rulers. Fron nomic principles in use among rulers. From
no known hypothesis, professor's or doctrinno known hypothesis, professor's or doctrin-
aire's, did it spring or was it born. It was simply and solely the practical application of imply and solely the practical application the protection of human beings.

The laborer of the United States is the United States," as Daniel Webster so tersel and truthfully put it. To the guardianship and protection of our labor do we owe our
prosperity, our greatness, our strength and our riches, to which the Lord Chief Justic of England bore his testimony about six months since:
ed me; I can see them at what 1 long to see and never shall see in my own dea middle classes. I have called your upper and low miade classes. Thave seen among them men
would do eredit to any capital in the world. I h
seen tens of thousands of houses occupied by owners of them. I am told that in general your farm ers own their farms, your cultivated gentlemen own
their houses, and your artisans own their cottages. What a state of satisfaction and content this produces

Such are the results of American economic principles, as enacted by American legislators. In conclusion, we commend to the consideraJames A. Garfield, of which the venerabl Peter Cooper said, it was truly American:
We legislate for the people or the United States and
at for the whole world, and it is our glory that the
American laborer is more intelligent and better paid
an his foreign con
And we particularly call Mr. Hewitt's at Mr. Coopriding speech evermade in the interests of American Labor, at the Cooper Institute, New York, Feb. 1st, 1883 ninety-third year:
"These advocates of free-trade propose that our mechanics shall either work at the starvation wages
of foreign laborers, or be forced to abandon their
trades and become comploter trades and
of our count

號 duction of the tariff has brought wretchedness and
ruin. It is the natural effect from such a caus Nothing is more certain than that the advocacy of
free-trade comes free-trade comes from foreigners who want to break
up our industries. They have done it several times abore want to do it again.
body and soul together, and that is the conditioe which the advocates of free-trade are trying to place
our laborers, and it behooves every man to do all he our laborers, and it behooves every man to
can to deter Congress from the endeavor."

## indIa wheat.

Mr. Wm. Dresbach, a prominent exporter a quoted from the, exprald of the opinion Francisco, that the soil and climate of India Francisco, that the soil and climate of India
cannot be adapted to its successful culture for many years, owing to the fact that it is impossible to harvest wheat grown in the largest districts without more or less of a black adobe getting in it that it is impossible to separate unless by wetting, which is rather
expensive, and will always cause it to sell for less than does wheat grown in countries to which that grain is indigenous. He also claims that it will not keep, as it soon becomes wee
villy, and in a few months is so eaten as to villy, and in a few months is so eaten as to
blow away. There is no questioning the fact that dirt is liberally found in the India product. The Bombay Chamber. of Commerce are endeavoring to solve the matter. It stated in its communication to the Indian govern-
ment, that they were unable to say whether ment, that they were unable to say whether
any adulteration goes on by the buyer of the crop after it is reaped, but they were inclined
to think such was the case. By way of correcting this dirt trouble the Bombay government recommends that prizes be distributed to those farmers who cultivate the grain in
the most approved manner, and whose crops are freest from dirt.
PREVENTING CORROSION AND SCALE IN BOILERS A paper on this subject was read at a recent meeting of the Society of Arts by Mr. G Swinburn King. After some preliminary
remarks, Mr. King stated that it had long remarks, Mr. King stated that it had long
been suspected that "galvanic action or elecbeen suspected that "galvanic action or elec-
tricity in some form had to do with corrosion and pitting." He then mentions the various theories on the subject, and alludes to the numerous patent compounds for curing these evils, remarking that "some compounds cure
one part of the evil, and do not touch others, while some, again, are extremely dangerous while some, again, are extremely dangerous
to use in a boiler under steam pressure." The author then refers to the results of the labors of the committees appointed by the Admiralty between 1874 and 1880 to inquire into causes of decay in the boilers of her majesty's ships. "The main conclusion," he says, "at
which the committees arrived-the great prinwhich the committees arrived-the great prin-
ciple which they asserted and demonstrated -was, that galvanic action, induced by the contact of zinc with the iron of the boiler, was the best and only trustworthy remedy
for corrosion; and that, so long as the metallic for corrosion; and that, so long as the metallic would go on. They adopted a plan of hanging slabs or plates of zinc by iron straps from the slags or rods within the boiler, the zine being held in a clip in which it was tightly bolted. The theory was perfect, but the weak point in practice was found to be in metals. umvent this difficulty-first by fixing in each boiler an excessive number of plates, so that, apparently, if electric contact should cease even in many plates, it might chance to be maintained in some; and secondly, they directed a frequent examination with the view of renewing the contact and putting in fresh plates in lieu of those destroyed by corrosion. This system was the best they were able to arrive at, but it could only be maintained at such a cost that, to use the words of the report, 'the protection is undoubtedly an important element in determining how far it should be adopted.'" (It appears that the actual waste of zinc was much greater than that due to th protection of the boiler.) The author then which failed from of experiments, all of destruction of the metallic contact between the zinc and iron, from one cause or another. To remedy this, Mr. Hannay, an electrician of Glasgow, designed what he calls an "elecMr copper conductor cast through the center of it, the copper being so combined and amalgawated with the zine at the junction of the sion could form between them to stop the galvanic current. The zinc is well hammered at certain temperature, insuring long existence in an efficient condition. This ball is fitted in any convenient part of the boiler by simple device, and a wire from each end of the copper is soldered firmly to the iron. From this moment the electrogen keeps up whole of the interior of the boiler is absolutely protected from corrosion so long as any of the zinc remains. It was ascertained, by urther experiments, that a very small surface of zinc was sufficient to afford protection for radius of twenty-five feet from the point of ontact, and the spherical form of the zinc was adopted because it would maintain perfect protection with a minimum of waste, the
large surface exposed by plates, in proportion large surface exposed by plates, in proportion the means of avoiding that解 Admiralty Committee stated was much greater than that due to the proection of the boiler, and for which it sought remedy. Two electrogens are found in pracice sufficient to protect an ordinary 'singleended' marine boiler, in which by some engi-
neers, forty or fifty plates would have been onsidered necessary. The electrogens will ast about six months, while the plates would probably corrode away in as many weeks. The zinc ball with its perfect contact, genertes a current of greater intensity than zine plates mechanically fitted, and the consequence is, that a portion of the water is slowly decomposed, and the hydrogen that is evolved the negative pole, all over the surface of the iron and underneath the scale, forces off the scale in thin flakes by mechanical action as soon as it becomes thick enough to be impervious to the hydrogen. In this way, the scale is kept forming and reforming, hanging in loose flakes, or falling off as it becomes detached from the iron. Thus all the evils attending incrustation, which have been before enumerated, are avoided. Fuel is saved, burning of the iron prevented, and chipping
becomes no longer necessary,"


ROPP'S COMMERCIAL CALCULATOR
The United States Miller For Oime Year for \$1.00.

the farmer and the grain buyer. Farmer-What are you paying for Corn to-day, and
what is the weight of my load for
Grain Buyer- Your to worth $t$ Farmer (opening hhs. Caleulator)-Then I had on 48
bushand \&\&s., and you owe me 825.84 .
(See tables. (See tables, pages 9 and 24, and rule, page 66.) Grain Buyer (after figuring for some time)-Correct
How can you tell so quitelly?
Farmer-1 fous
 Account Book, without making a single figure. It
tarows the wetight into bushels of ning ifferent kinds
GF Grain and seeds, and shows the amount, at any
price and for ser any price aes.
Sopager Buyer-Well, let, me give you some more
oxamples in other lin How many bushels in a load of Oats, weighing 2,130
ibs,, and what will it come to at 28 ets. Farmer (instantly)-sixty-six bushels and 18 lbs ;
comes to 818.4 .
 and 30 bs., and comes. the to busishel, it makes 26 bush.
it will be bit
it only ${ }^{88}$ Find the cost of 38 dozen Eggs, at $121 / /$ ets. per doz.,
 What ts the vee pago is, ind rule, page ee.,






 (See table, paggo ea.)
problems for the banker.
 Friday, it would aocommoodate me very much, as I
must have even $\$ 1,000$ to-day.

Banker-How do you know that the discount is jus
14 T ?







 On what day of the week will a note, dated Septem
bn whersis.
Answer: Wednenuee which has three years to run Answer: Wednesday $\begin{gathered}\text { See } \\ \text { On Perpetual Calendar, page 63.) }\end{gathered}$
 Give the respeetive week days of July 4, 1776, 1876,
and lyrg. Answer:Thursaly Thesday PROBLEMS FOR LABORERS, MECHANICS, AND OTHERS
Farmer-John, I am obliged to discharge you for
want of work. You have put in 5 months and 18
days, which, at 80 per mont ant days, which, at 820 per month, amounts to $\$ 113.85$. How much will a machinist earn in $3 / 4$ days at $\$ 14$
per week? Answer: $\$ 8.75$.






















cost of plastering same at 15 cts. per yard. Answer
133 yarrds cost of plastering sito
 How many shinglee rulee, page 72. .







Before Ihad my book Id depended mostly on others,
ant never was very koo thigure, but now Ineed
not bother them. yet who can beat. me fact, I have ont met a perroon

PROBLEMS FOR THE MERCHANT Merchant-This is a most elegant hat, and extremely
 Farmer- Yes, I see that you are making only 20 per
cent. on thoses Merchant tsirurprised-Who says 20 per cent? by moving the deefmal point, of the price, says, that one pace to the left, glivest the price priee per single azant:
oie. with 20 per cent.
Iront.



 (See rules, page 88.)
THE FARMER AND THE STOCK SH:P(the pabmer saves sio.)
 Farmer (using his Calculator)- Hold on, there is a
nistake osmewhere. 1 make it 815.60 .
 You are right. Here is a 810 bill with your
Excuse my mistake
(SBe table, page 52 , and rule, page oe.)

## THE FARMER AND THE MILLER


 Farmer riturning to page 14)-Makes bushels and 40 .
pounds, and entities me to eze pounds of Folour. intended for all classes.








LABOR AND WAGES IN DUNDEE, (SCOTLAND.) report by united states consul wells
From careful inquiry it has been ascerFrom careful inquiry it has been ascertained that the average wor skilled artisan people in this town are ror sork, in the case $f$ iron workers, and 51 hours for tradesmen connected with house building. Laborers get $\$ 4.75$ per week for 57 hours. There are
workmen that make more money weekly; for instance, iron shipbuilders, some of whom at piece work are paid from $\$ 11$ to $\$ 15$, and seyral others, such as boilermakers, who have about $\$ 8.50$. The earnings stated, however, a In the jute and linen works women in th spinning-mill departments make about $\$ 2.50$, and in the weaving factories $\$ 3.50$ of wages per
week for 56 hours' labor. These working people on the whole are but poorly provided for in the way of house accommodation. There are in Dundee 8,620 houses of only one room and 16,187 houses of two rooms, into whic are crowded 74,374 men, womer and children. If to these be added the three-roomed houses 18,000 of the 140,000 inhabitants of this com munity live in houses of one to three rooms. in flats, is, for a house of three rooms, including all taxes and convenience of water ther in but not upholding gas, $\$ 77.50$, and for on of two rooms $\$ 48$. These houses are engaged for the year and rents are payable half-yearly. Rents for single-roomed houses are from 60 is shown, a large portion of the populatio of this manufacturing center live in houses of one room and two rooms each, and especially upon these denizens the devastation of inectous that amongst them nine-tenths of the deaths from fever in this town take place. Of the whole population this year 157 per 10,000 were attacked by infectious diseases, of whom rather more than 12 per 10,000 died. But among the population living in one and and rather more than 16 per 10,100 died, while among the whole of the rest of the population, including the people in the three-roomed 4 per 10,000 died, showing clearly that the one and two-roomed houses are great nurseries of disease. Many of these single-
roomed habitations are wretched in the occasionally are without even a bed. some of these hovels five or six human beings are sheltered, with nothing to lie on but the have the opportunity, with jute burlaps which they take in to make into hand-sewed bags. The sanitary authorities of this town do a great deal to cleanse and purify the entrances to, and vicinity of, these vile dens, so that they may be kept healthy, but without prolific sources of all sorts of contagion, which sometimes spreads with virulence throughout the whole community. There are here and there in Dundee large and
well-constructed tenements erected in airy well-constructed tenements erected in airy
localities, in which working people can live with some degree of comfort. Such homes are, however, not so numerous as is desirable, and the general appearance of many of the
dwellings is cheerless and squalid, with no bright surroundings, and wanting in ventilation and proper sanitary convenience. It is surprising, considering the way human
beings are thus huddled together, without anything like an adequate supply of fresh air and often light, and in the midst of a
polluted atmosphere, that these poor creapolluted atmosphere, that these poor crea-
tures continue so vigorous physically and cheerfullas they are. This melancholy state of matters, it must be admitted, is not due
altogether, to the dire poverty of the people, altogether,to the dire poverty of the people,
but is, undoubtedly, in a great measure, the result of improvidence in spending much money for intoxicating liquors. It is stated
that $\$ 1,500,000$ worth of spirits and beer is annually consumed in this town, too much of which sum, it is said, is contributed by the toiling masses, who ought to be more careful
of their scanty earnings. Apart from the incalculable amount of degradation, misery and vice, that intemperance entails on many of these poor. people, they cannot afford thus should rather devote it to procuring that which would render their homes more pleasant and habitable. Although habits which of the working classes of Dundee, yet it is satisfactory to have to report that there is and thrifty, and who manage to save money as shown by the figures of the Dundee Savings Bank, ehiefly resorted to by them. In
1882 this institution, the funds of which are 1882 this institution, the funds of which are guaranteed by Goverument, had 22,544 depos-
itors, having at their credit $\$ 8,232,815$. That ut $\$ 1,259,820$, showing a gain of $\$ 148,400$.
few of these workingmen have sufficient means to purchase a house for themselves instead of renting one, but this is seldom done carcely any working tradesmen in Dunof ground being so expensive within the would be inconvenient, as being too far rewould be inconvenient, as being trom the workshops. A pleasing
mover eature to be mentioned is the large number of old, tried and faithful employes which a
numerous amongst these working people

## Men, and women a

 the same employment for twenty or thirty ears are not uncommon in Dundee. Sober intelligent, reliable and decent servants are espected, esteemed, and their worth duly appreciated by employers here, who exe themselves to provide abundant and steady abor for such. Young people of both sex an readily obtain employment in the jute and linen manufactories here. Dundee therefore, attracts workingmen with familie rom surrounding small towns and rural districts. Boys and girls under fourteen years of age are engaged in these mills as hours work and education for two hours daily in the school connected with the mills. Thos above that age are eligible for full-timers, no so can make the average wages already noted. Thus, the joint earnings of the and be well clothed. Indeed, it is noticeabl that these respectable working people are nicely and warmly clad. Many of the factory girls overstep this medium and are expen holidays. There are ample facilities fo education and self-improvement in Dundee. Schools ably conducted are numerous and provided with everything appertaining to the knowledge. Still a large number of the rising generation are growing up in ignorance and crime through not attending these instiutions for elementary learning. Parents ar occasionally summoned before the sheriff's court and punished by fine or imprisonmen The invecting the education of their children The invariable excuse of these delinquents is the wherewithal to pay the 7 to 12 cents per week demand for teacher's fees, or are unable to furnish their children with clothes to these pleas are in sehool. In some case widows or those in distress.The school board try to alleviate these un ortunate people as far as possible by collecting clothes or money with the object of but a very partial remedy for the evil.
Free education, as in the United States, is what is required as a means of reaching the children of the whole mass of the population, o that every child may have a chance to be mught to read and write, and thereby be responsible members of the body politic The inhabitants of Dundee have a free circulating and reference library and reading It is true that the kind of literature mostly read is of a light nature, such as novels books on travel, magazines, etc. Works of and educative tendency, which abound in this collection, are, however, becoming yearly more sought after and taken out by the higher tone and taste prevailing. The vealthy in this community show praiseworthy public spirit and generosity in giving freely their means for recreation park, educa tional and general philanthropic purp
to benefit their less fortunate citizens. rich lady still living has munificently gifted rich lady still living has munificently gifted
$\$ 650,000$ to build and endow a university college in Dundee, which was opened a week or wo ago with great eclat. Also, a gentleman time upwards of $\$ 250,000$ for educational and time upwards of $\$ 250$
Clothing and Food Prices. The price here for a ood, well-made,ordinary suit of tweed clothe coats can bo workmen whendressed, is $\$ 1$ 3.50 ; trousers, $\$ 4.50$; and strong boets for $\$ 4$ $\$ 3.50$; trousers, $\$ 4.50$; and strong boots for $\$$, The cost of the necessaries of life for fairly
superior qualities is for a four pound loaf of wheaten bread 14 cents. In cents, the value of the pound of butter is 30, of sugar 7, tea flour 4, European flour 34; fresh beef, home ed, 24 ; American fresh beef, 16 ; mutton, European, 14; codfish, salted, 5; potatoes, 1 pork, salted, 12 ;-American canned meat or
beef, 19 ; milk, per pint, 4 ; and eggs, per dozen, 26. The food of the working classes is simple and homely, consisting of, it is under a pound of oatmeal and supped with half a pint of milk, or tea, or coffee, and bread and butter, with perhap
bacon, or a herring.

Dinner is frequently Scotch broth, cooke with cabbage, other vegetables, and beef from 4 to 6 ounces of the latter is what fall to the share of the heads of a family. Supper
tea or coffee, with bread and butter, sometimes accompanied with a little delicacy Mill and factory girls who do not reside a ome but in lodgings or rooms are compelled o live more plainly, their wages being insuf ficient to pay rent, clothe themselves, and procure to the full extent the kind of fare pecified. Animal food is therefore more arely on their tables. Dressmakers, millinrs, and shop girls make about as much mone mgly they have to be the flictories, accord lisly they have to equally careful in the economical, as they must necessarily dress economical, as they must necessarily dress
better than those employed in jute works Domestic servants' wages are from $\$ 60$ to $\$ 7$ per annum, with board. They have less per sonal liberty than the women workers named but housemaids and such like, when in re spectable families, are more generously fed or shopkeepers, especially when these do not or shopkeepers, especially wh
Trade has been on the whole prosperous in Dundee during the past year. Working peoque in all branches of industry have it may be said, plenty of labor The iron ship building business has been ex eeptionally busy, and the men engaged in
have made large wages. The building trad have made large wages. The building trade has continued languid all through the year penters, etc., could generally ind constan employment. In closing, no comparison is
drawn between the condition of the workin classes in the United States and this country but the facts given are left to tell their ow
tale. Willard B. Wells, Consul.

## E HAZARD OF ELEVATORS.

Whether rightfully or not, grain elevators and warehouses have not been regarded wit as with many other classes of risks, the expe riencing by insurance companies of heavy the selection of risks, and their vicious are ey system which puts a premium on care lessness in accepting risks, since the agent mission or no care beyond securing his comgood many elevators burn.
We have before us the New York Chronicle Fire Tables for nine years, viz.: from 1875 1883, inclusive. From these tables we learn burned in the nime years 341 elevators wer occurring in 1883 . In these same nine fire 13 elevators were reported burned in the Dominion of Canada. There are reported in addition to the above the destruction of 3 floating elevators, all of which, we believe (though not stated), were at Baltimore.
grain warehouses, 240 were reported in the United States in the nine years named, 39 being credited to 1883, while in Canada 35 were burned in the same period, 6 of which Fere credited to last year.
Figures like the above would seem to indibut the number of fires oceurring in ancreasing of risks is not always a fair measure of the fire hazard; for a class of buildings like elevators and grain warehouses may be increasing in number very rapidly. There were exactly as elevators, and within three of nine years a ries. There were twice as as many brew burned and more than twice as many churches, four times as many cotton gins, and five times as many flour mills. So elevators are not the worst risks, by a very large majority.-Ameri can Elevator and Grain Trade.

## MEXICAN CORN BREAD

So general and exclusive is the use of Infail one third to one, the this ulation would die of starvation frost on the 29th of August, 1874, injured the young plant, and it is calculated resulted in the death of over thirty thousand persons. A population of millions is dependent upon dependent upon the potato, and millions in India scarcely so dependent upon rice as the Mexican people are upon maize, now the fore most of our cereals. The monarch of our prai rie lands and the arbiter of stock exchanges, it conceals from all who trace its ancestry, from en the most persistent botanist, every cle to its na
genitor.
Corn bread or tortilla is made from the grain n one establishment, the tortilleria, which is mill and bakery combined. Women kneel shop, the inclined rough surface of the lava metate before them. Upon this stone they place from a tray, handful after handful of corn which has been soaked and heated in alkaline substance has softened and loosened the exterior coating of the grain that in ordin-
ary mills produces the bran. With a long, round stone held like a rolling-pin, this corn is rubbed to a coarse paste, which is pushed, as fast as it is deemed sufficiently crushed, upon a pine board placed below to receive it. This paste now goes to the cake maker, who
stands near the fire. She takes a small piece stands near the fire. She takes a small piece and holding it in her hands vertically, pats it
rapidly into a thin disc. This is thrown rapidly into a thin disc. This is thrown at
once upon a hot earthen plate, where it is once upon a hot earthen plate, where it is
soon thoroughly baked or roasted.

## WOMAN AND PROTECTION.

The direct results-or rather the inevitable results-of free trade are reduced wages. The fruits of cheap wages are poverty, social and moral degradation and crime. When the point he is no longer enabled to support his family by his own exertions, but is compelled o call upon his wife and children to aid him in his task. In free-trade countries where wages are lowered below that point, the families are often compelled to engage in the most menial employments, and the women in requent instances are forced into an unnatural competition with men in the kinds of the boon which free trade brings to the poor man. Cheap goods may be desirable, but who would ask for them at the cost of human
happiness: Who would seek for them, knowing that they were made cheap by the toil and labor of women and children? Who would which the free-trader longs for-when it is known the to produce longs for-when it is known that to produce them the wife must be
dragged from her home to slave in the shop, dragged from her home to slave in the shop,
and that childhood must be robbed of its free dom and joys? Free trade is founded on the dom and joys? Free trade is founded on the
wrecks of domestic peace and happiness, on wrecks of domestic peace and happiness, on
the loss of virtue and honor, on the loss of health and happiness of fathers, mothers and children, on the loss of everything dear to man or woman. It is the enemy of the home, foe to virtue, a menace to the peace and stability of society. A doctrine that plants that brings the heart of womanhood, and her from her children and forces her to tears like a slave is most foul and pernicious, labor like a slave, is most foul and pernicious, and ilized country on the globe.-Industrial World,

## MONTERICHARD'S PROCESS FOR MAKING BREAD.

The inventor of this new system of breadmaking claims that it will insure about 10 per cent. more bread, than the usual method, by the new process, will produce ten pounds more bread than if the usual method had been employed.
Taking into consideration the enormous mount of bread which is daily being produced which consumed, it is evident that this process, no che by no means expensive, and requires advantical manipulation, possesses great in quantits over the old. Aside from this gain in quantity, it is said that the bread possesses hygienic and digestive qualities not to be attempts bead time to time been made to produce such a result, principally consisting in cooking grain or bran in water until it is entirely broken up, and then subjecting the mass iquid the water used for kneading containing gluten is, however, distributed unequally through the dough, and evaporates entirely during the baking, leaving the gluten in parts of the bread, the weight of which is increased,
minished.
The method in question, on the other hand assimilates the water remaining in the dough, producing combinations which increase the are, consequently, entirely different; in the
former case consisting of an increase of
weight, in the latter increased production of weight, in the latter increased production of
bread. The new process does not change the usual
operations of preparing the dough from the
flour, and the kneading and baking also re-
main the same. The difference consists enwoiled a proper amount of grain has bee

## Although any kind or quantity of grain can be used, the following formula has been found

 to answer the purpose best: Put 100 tos. ofcold water in a kettle and immerse therein a
basket made of wire, containing one quart of
grain (wheat is the best) pile basket made of wire, containing one quart of
grain (wheat is the best), piled loosely, so
that is entirely covered by the water. Ther
boil the grain for about one hour, when the basket is removed.
The water thus obtained is cooled to the The water thus obtained is cooled to the
requisite degree and must be used for all the requisite degree and must oe used for all the
operations of baking, in the same quantity as
usual, but it is of great importance not to
mix it with any unprepared water. It is, fur-
ther necessary to stir it well before using it,
particularly if it has been prepared for some

> No matter what the quality of the flour, the
water prepared in this manner facilitates water prepared in this manner facilitates the
separation of the sugar and dextrine, while it
mparts more body to the guten and the
starch, which explains the increased amonnt
of breadobtained by this new proeess.--Allye-
meine Muehlen-und Maschinen-Industrie-Zei-

# Stout, Mills \& Temple, <br> The 

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## dimensions of mill buildings.

For the convenience of millwrights and parties desiring to build new mills, the fol-
lowing table of dimensions of buildings suitable for mills of various capacities from 50 to 500 barrels of daily, has been of buildings suitable for mills of various capacities from 50 mos barrels daily, has been prepared. The figures are taken from actual practice, and
may be relied upon as being correct. It will be noticed that several different sizes are
given for meat
may be selected. each capacity, so that the one most suitable for the proposed location H1

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Remarks.

## No spare roon No spare roon Ample rom. With bin tioor :" まutaz yiaize  *itine  <br> Antin iniz

This mill can also be put in a burding $92 \times 50-$ same storage
Smallest building that this mill can be put in to advantage Beams are to rum crosswise of bulding, , oistst lenget no bise floor
3 Joists on all floors to be
$3 \times 12,16$ inches from eenter to center. Corresponding joists in each floor should be plumb above those in floor below. Single floors in all stories except grinding floor and b
double floor and the basement a cement floor 4 inches thick. Roofs flat, tai and gravel, piteled narro
Rafters 2 x 6, , itinehes from center to center.
the ". Milleright and basement, 12x12; attic, $8 \times 8$; beams under gring ping the foot.

## THINGS WORTH KNOWING

Viennese bréad is celebrated. It may interest you to know something about it. The excellence of the bread is attributed in Vienna to three reasons-the oven, the men and the yeast. I think another may be added, and that is thedryclimate An ounce of yeast(three decagrammes) and as much salt is taken for every
gallon (one litre) of milk used for the dough. gallon (one litre) of milk used for the dough. The yeast is a Viennese specialty, known as "St.Marxner Presshefe," and its composition is a secret. It keeps two days in summer and little longer in winter. The ovens are heated by wood fires lit inside them during four hours; the ashes are then raked out and the oven is carefully wiped with wisps of
damp straw. On the vapor thus generated, damp straw. On the vapor thus generated,
as well as that produced by the baking of the as well as that produced by the baking of the
dough, lies the whole art of the-browning and the success of the "semmel."
London has altogether ninety-seven public breweries, consuming $8,885,740$ bushels of malt and corn and $31,937,772$ lbs. of sugar. The Litchfield collection, which includes the Burton district, comes next, with forty-eight and corn and 4 mang $6,229,209$ bushels of matt is next on the list, with ten breweries, using 3,093,651 busheis of malt and corn and 362,606 lbs. of sugar. The other largest brewing
centres are Manchester, Edinburgh, Sheffield centres are Manchester, Edinburgh, Sheffield and Warrington, all of which consume up-
wards of $1,000,000$ bushels of malt and corn.

Save Ground for Buckwheat.-There is no crop that pays the farm9r better in the West, than a patch of buckwheat. Most of the lour used in our Western cities made from buckwheat, is imported from the Middle and Eastern States. This is a needless expense. The money paid out for it should be kept at only sow that variety of grain. There is no part of the continent that produces better crops of buckwheat than the Northwest. It can be sowed, harvested and threshed without interfering with any other work on the farm. After all the other spring work is finished it can be sowed. After all the wheat, oats, barley and rye crops are?harvested, the buckwheat crop rye crops arejharvested, the buckwheat crop
can be harvested. After all the other grain crops are threshed the buckwheat can be threshed. So it won't interfere with the bustle and hurry of the farm at all. It has a season by itself and at a period when farmers have little else to do on the farm. We hold that it sthe duly of Western farmers to produce anything incident to the soil and climate, that can be profitably raised, especially crops that have as much money in them as there is in buckwheat
Cottion Seed Hulls.-It looks like a small matter, but the annual cost of cotton waste in packing journal boxes amounts to a very large sum. It may not be known to railroad officials, but the use of cotton seed hulls for this purpose is making much progress, and while equally as satisfactory in efficiency is far less expensive. The cotton-seed oil mill worth locat near the depot, and it would be worth the while for them to experiment with and that, too, from a most reliable source,

100,000 pounds of hulls from the National
Railway Patent Waste Company within a few Railway Patent Waste Company within a few
months. The economical results of the use of this packing have been clearly demonstrated A recent careful test gave the following of packing the boxes on been kept of the cost of packing the boxes on one side of a car with side of the car with hulls boxes on the other side of the car with hulls and oil for the same ength of time, showed that
The cost of cotton waste and oil was...
The cost of cotton-seed hulls and oil wa.

## 2. An accou

saving in favor of hulls and oil of
The above saving is not only in cost of amount of oil used, hulls requiring much less il than waste
Starch,-The principal grain from which starch is manufactured at the present time is Indian corn-wheat and potatoes being sed in limited quantities.
There are twenty-four factories in the Fifteen of these are warturingstarch from corn. Fifteen of these are working under the new bout two-thirds of the total amount made per annum. The balance work by the old Indiana is theleation process.
Indiana is the leading State of the Union in the production of starch from corn, having
eigbt factories and producing more than onehird of the total amount made
The total capacity of the mills manufacturing starch from corn is a trifle over $200,000,000$ pounds per annum. The total number of pounds of starch of all kinds exported from the United States in the twelve months endng July 1st, 1883, was 7,033,715.
The consumption of starch for all purposes in the United States is about $150,000,000$ pounds each person.
Drilling and Filing Glass.-Glass may ee readily drilled by using a steel drill hardened but not drawn at all, wet with spirits of turpentine. Run the drill fast and feed light, of clearance, and no difficulty will be experienced. The operation will be more speedy if the turpentine be saturated with camphor gum. With a hard tool, thus lubricated glass can be drilled with small holes, say up to three-sixteenths, about as rapidly as cast teel. A breast or row drill may be used, care being taken to hold the stock steady, so as not to break the drill.
To tile glass, take a twelve-inch mill file single-cut, and wet it with the above solution he work can be shaped with camphor-and as fast as if the material were brass.
To turn in a lathe, put a file in the $t$
and wet with turpentine and camphor stock ore. To square up glass tubes, put them on
rod with centers through a block of cherry, chestnut, or, soft maple, and use the flat of a Run slow file in the tool post, wet as before by a tube-shaped steel tool cut like a file on the angular surface, or with fine teeth, after the manner of a rose bit; great care being necessary, of course, to back up the glass fairly with lead plates or otherwise, to prevent breakage from unequal pressure. This tool does not require an extremely fast motion. Lubricated as before, neat jobs of boring and fitting glass may be made by these simple means. The whole secret is in good high steel worked low, tempered high, and wet with American.
A Good Lubricator.-Castor oil is a good ubricator for machinery by reason of its great it is also comparatively cheap; cheaper in fact itisalso comparatively cheap; cheaper in fact,
than many of the lubricators; axle greases, etc., offered for sale, which are often, for the sake of increased weight and volume, adulterated with worthless and even deleterious substances.
An Austrian View of the Whea Fields of the - World.-The Mississippi $V$ alley is now the most extensive wheat field only consumed by a large only consumed by a large portion of the
population of the United States, but quantipopulation of the United States, but quanti-
ties are also sent to Europe. California has already reached the highest point of its producing capacity, and must at an early date be expected to yield less, in consequence of per-
petual cultivation having exhausted the and. In addition to this, wages in Californi are quite as high as in the Mississippi Valley whilst the former place is more than 3000 miles distant from the home and foreign markets, even if the most direct railway
route be used-that via. Festland, which route be used-that via. Festland, which
is likewise the dearest: By water the differ ence in the distance is more than 1,000 mile The wheat fields of Russia are too far away oo have the advantage of cheap means
of transport. Nevertheless, they constitute of transport. Nevertheless, they constitute
a formidable competition to the Mississippi district on the European market. Russia cannot meet all requirements; therefore, with a good harvest and normal rates of transport,
the English market is assured to the Mississippi Valley. India, by virtue of her ex tent and the richness of her soil, is capable of meeting the extra demand of every country
in Europe; but agriculture in that country is still in a very primitive state, and labor is so very cheap that no mechanical appliances are in this re. America has a great superiority she can not only work cheaper than India, but is also nearer to the European markets, India being 6,000 miles, whereas America is
only 4,000 miles distant from Liverpool. The freight from these trom Liverpool. The proportion of 9 to 15 . India also labors under the further disadvantage that when her corn is brought to Europe it is subjected to a longer Furthermore, the population of the United tates is growing more rapidly than the harests, and it is computed that in twenty-tw years there will be no surplus, but an ad-
ditional requirement of $100,000,000$ bushels. Oesterreichische Ungarische Mueller Zeitung.

## NEWS

## The North Star Iron Works

A new belt drive for roller mill3
Lawson \& Bell, millers at Gallipolis, o., have
B. Liabilities reported at $\$ 25,000$; assets $\$ 20,000$. Burned-Dewey \& Williams grist-mill
ord, Pa., Mareh 25th. Partially insured.
Wike \& Perry, Barry, Ill., have lately started up
ther mill on the Case system with satisfactory result
The Case Mfg. Co., Columbus, O., have an addi-

## tional order Grafton, Ill.

The Case Mfg. Co., Columbus, O., have an order
rom kiley, Brookville, Ohio, for breaks, rolls,
J. H. Townshend \& Co's two mills at stillwater, Minn., are running to f
barrels of flour per day.
Wilford \& Northway of
ontract to build a 100
Pederson at Eltrick, Wis.
heir mill over from the stone system to the case
James Veateh \& Son are
edmond, Il., with machinery from Nordyke \& Man mon Co., of Indianapolis, Ind.
The Case Mfg. Co., Columbus, O., have an order
from E. J. Sourwine, Republic, Ohio, for two pair
Logan Bros. \& Co, shatic.
Logan Bros. \& Co., Shaklyville, Pa., have ordered
one pair rolls with patent automatic feed from the
Case Mfg. Co., Columbus, o
Case Mrg. Co., Columbus, 0
in, Tex., using machinery made by Noilt at Dub non Co., of Indianapolis, Ind.
BunNED-Aprli 22, the stone flour mills at Wilson,
Ks., with 2,000 bushels of grain. Cause unknown Koss 830,000 . Insurance 812,000 .
Hardesty
Hardesty Bros., Columbus, O, have ordered a
patent automatio feed froui the Case Mfg. Co. to be

The Case Mfg. Co., Columbus, Ohio, have an order
from the Edgerton Mill Co, Edgerton, Kans., for breaks, rolls and centrifugal reels.
A boiler in Bathrick's mill at Davison Station, oxploded on the 17th, killing the engineer and fatally Thos. Robinson \& Son (Limited), Rockdale, Engnd, have ordered twelve additional sets of rolls from Bowen Bros ane he
Bowen Bros. are made for them by Nordyke \& Marm mill utflt made for them by Nordyke \&
which will be set up at Maysville, Ind.
Hardesty Bros., Columbus, Ohio, have ordered from the Case MPg. Co. a four roller "Bismarck" frame The Case Mfg. Co.. Columbus, Ohio have an order
from Mitchell \& Scruggs, Dallas, Tex., for a No.
1 double purifler, to be shipped to Terrell, Tex. Lessig \& Co., of Ashland, Penn., are building an
O-barrel roller mill, and Nordyke \& Marmon Co, of S-barrel roller mill, and Nordyke \& Marmon Co., of
Indianapolis, Ind., are making all the necessary maIndianap
chinery.
Basher, Hepner \& Leedy, of Longmont, Colo., have Marmon Co., of Indianapolis, Ind., for improving their mill.
McAnnally, Raney \& Co., of Sipe Springs, Tex., are
building a two-run custom mill and procured their machinery from Nordyke \& Marmon Co., of IndianJ. L. Bihn of Tiffin, $O$., is building a one-run custom mill driven by steam, and has selected his machinery
rom Nordyke \& Marmon's mill building establish. nent at Indianapolis, Ind.
A Western agent of the Case Mfg. Co., Columbus,
Ohio, recently sold thirty-six pairs of rolls in one eek, besides selling other machinery of their manuThe Case Mfg. Co., Columbus, Ohio, have an order rom the Darling Mll Co., Freemont, Mich., for 1
No. 1 double and 1 No. 1 single puriffer, 1 bolting chest

The Case Mfg. Co., Columbus, Ohio, have an order Little Giant" break machine and scalper combined The Case Me ion
$\qquad$ dual reduction system. The mill has lately

The Case Mfg. Co., Columbus, Ohio, have lately reTenn., for eight pairs of rolls with patent automatic a and 1 No. 1 double purifler.
A 75-barrel roller mill is being built near Gibbon, y. Their entire contract is placed with Nordyke \&

The flouring mill
being changed to the roller system, using rolls and other machinery made especially for him by Nordyke The mill of W. S. Hall, of Steele City, Neb., and W H. Patterson, of Smithville. Mo., are undergoing ex-
tensive repairs with machinery from Nordyke \& The Case Mfg. Co., Columbus, Ohio, have an order Giant." McHale, St. Marys, Kans., for one "Little The Cons and one No. 1 single purifler.
The Case Mfg. Co., Columbus, O., have lately re-
gefved an order from Adam Simpson, Owatona, Hinn., for 7 pairs of rolls and one three roll break A Detroit company claims to have hauled the states. It was a boiler weighing 35 tons, designed for asteam barge, and it took 16 heavy draught horses to
The Brownwood Mill Co. of Brownwood, Tex., have organized to build a 200 -barrel roller steam mill, and
the machinery for the entire outfit is being shipped from Nordyke \& Marmon Co.'s mill works at Indianapolis, Ind.
McDowell \& Basye, of Simpsonville, Ky.. are re-
placing their burned mill with a fre of 100 barrels capacity, and their rolls and other achinery are being made by Nordyke \& Marmon
The mills of Haworth, Smock \& Co, Dili \& Son, and Evans \& Sohl, all of Noblesville, Ind., are being re-
nodeled to the system of gradual reduction and the nachinery comes from Nordyke \& Marmon Co.'s works, at Indianapolis, Ind.
The Case Mfg. Co.,Columbus, O., have lately taken
the contraet of the Peckler Milling Co.,St. the contract of the Peckler Milling Co., St. Jacobs,
II., for a full line of breaks, rolls, puriflers, centrinl., for a full line of breaks, rolls, purifiers, centri-
fugals, scalpers, ete., for a complete gradual reduetion mill on the Case system. Curry $\&$ Glover are building a 75 -barrel mill at
Aurora, Neb., and Nordyke $\&$ at dianapolis, are furnishing their machinery. Fr. Ha-
genmeister, of the same town, has also ordered a hree-run mill of the same firm.
E. M. Britts. Verndale, Minn., has concluded to emodel his mill to the roller system and after care-
fully investigating the different systems her his order with the Case Mfg. Co. for a full line of
breaks, pllls, breaks, rolls, puriflers,centrifugals, scalpers, ete.,for
a complete gradual reduction mill on the Case

Mr. Gillet, manager of the Societe de Construction de Passy-Paris, 14 rue du Ranelagh the agent of Ganz
roller-mills in France has since the recent experiments in milling by the Paris Syndicate received orders for remodeling the mills owned by Mr.
Dubray, Mr. Cadet, Joset freres, Lallemand Wanant, Peugeat and Benoit freres.
J. C. Haust, miller for Ino Bidwell of Chico, Cal., in
a reeent letter to the Case Mfg. Co. says: "We have a
been running the Little Giant Break machine scalper nearly two years making the first break for 150 bbls.
lour per day (twenty-four hours) and it has not cost us five cents for repairs, and I don't believe there is any other machine that makes a better break.
The following millers have lately sent in their or-
ders to the Eureka Mfg. Co. of Rock Falls, Mls,, for Becker wheat brushes: Russell \& Bailey, Wetmore, Kans, ; Whistler \& Harbarger, Maekinaw, Wetmore, Wil.
son Davis, Galesville, Wis.


Wetseh, Fimore, Ohio; Goodale \& Co, Delhi,
Loudensiager \& Berner, Loudensvile, W. V.
Coley,
"It is the open secrets," says Carlyle, "that ous truths they continually overlook, always looking into the distance for the succor which
lies in their own immediate surroundings, to lies in their own immediate surroundings, to
others. for the help lodged in their own capaothers, for the help lodged in their own capa-
city. To those richer stronger or wiser for the power abiding in their own strong hands, to the wide world for the opportunities hidden in their own neighborhood. We cannot learn too soon nor too well, that in ourselves is along the path of a successful life; that close to us is the work which our hands are to do, and that right before our feet lies the path in
which we are to walk."

FOR SALE. Mill. ${ }^{\text {good two-run water-power }}$ Frame dam, two dwelling two barns, and 114 acres of land. situated eifght mifles
south of ste Genevieve and ten miles west of st. Marys, five miles east of Cornwall Copper Mines
ABABAMN.
Write at oneo or call. Address, HIGDON ARAROANE. Write ato one or call. Address, HIGDON
BRos.,
"TRIUMPH" CORN SHELLER CAPACITY
2000 BUSHELS PER Shells wet or dry corn. Cheapest and Best Sheli, PAIGE MANUF'G CO.,
PARTNER WANTED Top putt mon Rour






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A Steam Power Roller Mill with capacity of 500 barrels per day. Has all modern improvements. A competent miller with reasonable capital will find it to his advantage to investigate. Address,

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116 and 118 Grand Avenue, Milwaukee, Wis.
MILL OWNERS AND ENGINEERS will please take notice of the fact that the

## STANDARD BOILER PURGE

is a perfect Boiler Cleaner in every respect and is guaranteed to remove ALL scale without foaming
or injury to the plates. We solicit your correspondence. Send for circular and directions. WESTERN SUPPLY CO., Milwaukee, Wis.

## NOTICE.

In the year 1880 we furnished a mill in the State of Michigan, with Twelve pairs of Steven's rolls. After running constantly night and day until Aug. 3, 1883, the mill was burned and the rolls were more or less seriously damaged. The rolls and frames were sent to us for repairs. Twelve pairs were re-ground and re-corvugated. The frames, which were of our earliest pattern, were put in as good order as possible, and new housings urnished. In this condition we returned the mills to the owners. Subsequently, we are credibly informed, the mills were sold to a Mill Furnishing House in Indiana, which is nowoffering these same mills as "new Stevens Double Roller Mills." This is a fraud upon us and the public.
If anyone wants a line of SECONDHAND Steven's Roller Mills we can recommend the above lot consisting of six double mills. For NEW MILLS apply to us or our authorized agents.

THE JOHN T. NOYE MFG. CO.,
Buffalo, N. $\boldsymbol{Y}$.
Beware of Second-hand Stevens Roller Mills offered by one of our competitors. They were made in 1881 and have
 since passed through a fire

## WORTH READING!!

Denver, Col., Apr. 15, 1884. To Whom It May Concern:-We make the following voluntary statement as a just testimony to the merit of a worthy machine. In 188i we bought of the Case Mf'g Co. of Columbus, O.,
 two of their No. I Double Purifiers, which we used in our old mill with great satisfaction. When we built our new 600 Bbl . mill we equipped it with 6 No. I Double Case Purifiers and two of another make, which we were induced to put in against our judgment. We accompany this statement with our order for two additional No. i Double Case Purifiers, one of which will displace both the objectionable machines. This gives us 8 Double Case Purifiers, equal in capacity
 to 16 ordinary single machines. We want no other Purifier in our mill. We also make this state-' ment, viz: That we have lately put the "Vibratory Automatic Feed," now so well and favorably known to all millers, on 60 Pairs of Rolls. This Feed is so important a feature with us that we would about as soon quit milling as discontinue its use.
J. K. MULLEN \& CO.

None but the Rolls manufactured by the Case Mf'g Co., are authorized to use the "Vibratory Automatic Feed."
If you want a full Roller Mill or a single machine, write us. We will give you our advice free of cost.

## Address,

THE CASE MF'G CO. Columbus, 0 .
Wm. E. Catlin \& Co., Gen'I Agents, Chicago, III.

## THE UNITED STATES MILLER

## Minto mill.

## The elitizen a grist mill. <br> a grist mill.

and fountriry.
There is a fine opening for a 50 -barrel roller mill at ladstone, Man
A flouring mill is wanted at Andover, Dak., says an Wm. Annesser, of Ottawa, O , inte
large three-story brick mill this spring.
J. F. Crowl, a mill owner of Montpelier,
build a 75 -barrel roller mill at Reading, Mich

Brandon, Minn., has subscribed 8500 toward pro ing a grist and saw mill combined at that place.
The mill of Kline, McDonald \& Hall, at Horseheads,
Y., burned recently. Loss 820,000 ; partly insured. The Case MPg. Co., Columbus, O., have just shipped
Geo. L. Hays, Piketon, Ohio, two additional pair of

Busby \& Sons, Lebanon, Indiana, have lately started up their mill on the Case gradual reduction
The Case MPg. Co., Columbus, O., have an order
from Jacob Fohim, Mansfield, Ind., for breaks, rolls, from Jacob Rohiň, Mansfield, Ind., For breaks,
scalpers, ete.
The Case Mfg. Co., Columbus, ©., have an addr-
The Case Mfg. Co., Columbus, o., have an addi-
tional order from Park \& Bison, Sidney, ill., for one centrifugal reel.
The Case Mfg. Co., Columbus, O., have an order
from P. M. Weist, Peney Creek, Md., for breaks, rolls, puriflers, eto
Morenci, Mich., wants a roller mill and offers $\$ 3,000$ to any person who will
tion in that village.
tion in that village.
The Case Mfg. Co.,
ditional pair of rolls.
tional pair of rolls. The Case Mfg. Co., Columbus, O., have an order
from Thos. H. Mosier, Springville, Mich., for one ad ditional pair of rolis.
The Case Mfg. Co., Columbus, Ohio, have lately shipped an additional No.
Gceting, Altamont, II.

## Shing, Altamont, II

Shàner, Knott \& Co., Beaver Falls, Pa... are putting,
in an additional pair of rolls furuished by the Case Mfg. Co., Columbus, Ohio.
The Case Mfg. Co., Columbus, Ohio, have an ad-
ditional order from Chas. Semmern, Belmont, Wis. for one centrifugal reel.
The Case Mfg. Co., Columbus, O., have lately ship-
ped A. H. Fairchild \& Son, North Bloomfleld, N. Y., ped A. H. Fairchild \& Son,
one No. 1 double purifler.
The Case Mfg. Co., Columbus, O., have an order
from C. Master, East Liverpool, O., for two pair rolls, with patent automatic feed.
D. F. Robinson, Georgetown, D. C., has ordered a
patent automatic feed for his "Allis" rolls from the Case Mfg. Co., Columbus, 0 .
The Case Mfg. Co., Columbus,
from G. D. Baker, Montrose, Mo.
matic feed box for his purifler.
The Case MP
The Case Mfg. Co., Columbus, Ohio, have an order
from G. W. Brown, Roseville, Ohio, rolls with patent automatie feed.
The Case Mfg. Co., Columbus, O., have an order
from Klingerhoffer $\&$ Sigg, Florida, Ohio, for two pair rolls with patent automatic feed.
K. Y. Moore, Talona, Ill., has placed his order with
the Case Mfg. Co., Columbus, Ohio, for two pair

The Case Mfg. Co., Columbus, O., have an order from Slitt and Middlekamp, South Pueblo, Col., for The flouring mills of Rambo, Bros. at Dresden, 0 . were destroyed by fire on the 5th inst. Loss, $\$ 50,000$ panies
The W. P. Huffinan Implement Co., Fort Worth, Tex., have ordered two pair rolls with patent automat
feed from the Case Mfg. Co., Columbus, Ohio.

Hanna, Mouldin \& Co., are having built for them Oakland, Ind., an 80-barrel roller mill using Nordyke The Case Mfg. Co., Columbus, O., have an order patent automatic feed boxes for his Smith purifiers. The Case Mfg. Co., Columbus, Ohio, have the order break machine and 5 pair of rolls with patent automatic feed.
The Case Mfg. Co., Columbus, Ohio, are furnishin H. T. Holiday, Kapidan, Va., with 4 pair rolls with patent automatic feed, centrifugal reels and other
machiner $y$.
The Case Mfg. Co., Columbus, O., have an order for two pair rolls to be shipped to G. W. Gray, North Freedom, Wis.
The Case Mfg. Co., Columbus, O., have lately shipped the Great Western MIg. Co., Leavenworth, Kans., one "Little Giant" break machine and sealper making
three separations.
hree separations.
The Case Mfg. Co., Columbus, O., have an order
from Kerfoot Bros., Des Moines, Iowa, for one "Little Giant" machine and four pair rolls with pa tent automatic feed.

Robt. Christian is building a two-run water mill at
New Canton. Tenn., using machinery made by Nordyke \& Marmon Co.,of Indianapolis, which is being se apby Mr. John R. Creasy.
Jacob Wiessmann, Clintonville, Ohio, is making
some changes in his mill, putting in tion some changes in his mill, putting in two pair rolls
with patent automatic feed, furnished by the Mgg . Co., Columbus, 0
The Beall Engine, Boiler and Machine Cumberland, Md., report business good. They a
meeting with a good demand for their new meeting with a good demand for
roller mill, recently introduced.
The Case Mfg. Co., Columbus, O., have an ord
from Peter Miller, Sparta wis. from Peter Miller, Sparta, Wis., for one double three
roll break machine, four pair rolls with patent roll break machine, four pair rolls
matic feed, centrifugal reels, etc.
Oelze Bros., of Cloverport, Ky., are among th latest to adopt the roller system, their contract for complete overhauling having been award
dyke \& Marmon Co., of Indianapolis, Ind. The Northwestern Milling Co., of Milwaukee, Wis,
have filed articles of incorporation. have fled articles of incorporation. The incorpora-
tors are Frederick Kuecker, William Kuecker, and Cors are Frederick Kuecker, William Ku
Thomas Abrighton. Capital stock 87,500 .
Carter \& Emmons, of Celino, Tenn., who met with
the loss of a fine flouring mill last fall, tracted with Nordyke \&Marmon Co., of Indianapolis, Ind., for a 75-barrel-roller mill outfit of improve
style. The Case Mfg. Co., Columbus, Ohio, have an order
from A. F. Ordwa, from A. F. Ordway \& son, Beaver Dam, Wis., for on
three roll break machine and six pair of rolls to be placed in the mill of Fred. Dehne \& Bros., Husti
ford, Wis.
Capt. F. M. Drake, Waldo, O., writes the Case Mfg
Co., Columbus, Ohio: "The Co., Columbus, Ohio: "The automatic feed I bought
of you for my 'Odell' rolls is at work and doing No. 1. I think it is the finest thing for feeding middlings
I

The Cas
taken the contract Co., Columbus, Ohio, have lately Mo., for a full line of breaks, rolls, puriflers, centr
fugals, etc., for a complete gradual reduction mill on fugals, etc., for a complete gradual reduction mill on
he Case system.
The Case Mfg. Co., Columbus, Ohio, have lately been a warded the contract of W. W. Bristol, Girar
Ill., for a full outfit of breaks, rolls, puriflers, centr fugals, etc., for a complete gradual reduction mill o the Case system.
The Case Mfg. Co., Columbus, O., have been award
ed the contract of G. C. Harvey, Canton, Ohio, for ed the contract of G. C. Harvey, Canton, Ohio, for a
full line of breaks, rolls, purifiers, centrifugals, on the Case system. The Case Mfg. Co., Columbus, Ohio, have been
awarded the contract of Moote \& Murphey, Oak
Grove, Mo.. for a complete outfit of breaks, rolls, Grove, Mo.. for a complete outfit of breaks, rolls,
purifers, scalpers, ete., for a gradual reduction mill The Case mfg
warded the contract of Peter Giilespie, Northville Mich.,
centrifagals, scalpete outfit of betc., for a full , rolls, purifiers tion mill on the "Case" system.
The Case MIg. Co., Columbus, warded the contract of the Peekler Milling Co., St Jacobs, ill., for a full line of breaks, rolls, puriflers
centrifugals, scalpers, etc., for a complete gradua reduction mill on the "Case" system,
The prominent mill-builders, Nordyke \& Marmon
Co., of Indianapolis, Ind., have just completed a 100 arrel mill, at St. Paul, Neb., for H. C. Metcalf, and have commenced upon a similar mill on the roller
ystem for Crow \& Leftwich of the same town. J. T. Brimflield, Harden, Mo., after carefully inves has placed his order with the Case Mfg. Co., Colum bus, Ohio, for a full outtit of breaks, rolls, purifit
centrifugals, scalpers etc., for a full roller mill. Mr. J. F. Littrell of the Geo. T. Smith Purifler furnished the plans for Ardinger \& Cress' new mill at
Greenfield, Ill. This mill will be an exclusive centri-
fugal mill, not single fugall mill, not a single bolting ehest being used. F
centrifugals and four puriflers will do the work. The Case Mfg. Co., Columbus, Ohio, have been
warded the contract of D L Crossman, Williams awarded the contract of D. L. Crossman, Williams
own, Mich., for a full gradual reduction mill on the Case system using nine pair of rolls in connection
with their breaks, puriflers, scalpers, centrifugals
 awarded the contract of E. K. Stratton, G reenshoro,
Ind., for a complete outtlit for a full gradual reduction nill on the Case system, using ten pair of rolls in con neetion with their breaks, purifiers, scalpers, centri
fugals, ete. John Almquist, sa miller employed in the Goodhue caught in the gearing of a set of rolls and his left arm crushed in a fearful manner. He was extricated
with great difficulty. It is miraculous that he was ith great difficulty.
The Case Mfg. Co., Columbus, Ohio, report that or their specialties and have been compelled to rect a large addition to their factory which will inrease their capacity almost one-third. This will enble them to fll orders more promptly. They report le outlook for a large trade this season as very
flattering. Their order book shows an increase of orders for March, of almost 50 per cent. over the cor orders for March, of almost 50 p
responding month of last year.

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tiop Potr＇s Patent Antomatio Footer for Roller


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us before you order．Address， us before you order．，Address，
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selling GRAIN of any kind，it will tell how many bush－ selling GRAIN of any kind，it will tell how many bush－
els and pounds are in a load and how mueh it will come
ts withent to without making a single calculation．In likemanner
it shows the value of Cattle，Hogs，Hay，Coal，Cotton，
ind Wool，Butter，EEKE and all kinds of Merchandise．II，
Womputing INTEKEST and wages it has no equal， either in easy methods or convenient tables．It shows
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ever，noto only tells results but also TEACHE entirely
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by a silicate Slate．Memorandum，pocket for papers and PERPEVUAL Calendar，show，ing the DAY Dor THE
ank in for any DATE in the 17th，18th，19th and 2oth cen
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turies It Fill be to every ones interest indeed，to
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MHWWKEO，WI

Important Notice to Millers． THE RICHMOND MILL WORKS，and RICHMOND
MILL FURNISHING WORKS are wholly removed to Indianapolis，Ind．，with all the former patterns，tools， and machinery，and those of the firm who pormerly
bult ap and established the reputation of this houise； Therefore to save delay or miscarriage，all letters in－
tended for this coneern should be addressed with care



 Minnesota；plenty of water，with a 32 ft．head．Goo
locatlou tor custom work and home market，This
the best mill looation in the county．Address， BOHMBACH，Red Wing，Mínnesota．
FOR SALE．A good water power Grist Mill， one of the best，water powers in western New York．
For full partieulars，adaress： For full particulars，，eddress：
E．SKELLE，Findleg＇s Lake
Chatauqua Co．，N． $\mathbf{Y}$

# EDW. P. ALLIS \& CO. MILWAUKEE, WISCONSIN. 



# Wegmann's Patent Porcelain Roller. 

We shall be Pleased to hear from Millers contemplating an improvement in their Mills, or Building new ones, and can furnish Estimates and Plans of our system of GRADUAL REDUCTION ROLLER MILLING. We have built and Changed over hundreds of Mills, in all parts of the Country, and using all classes of wheat, BOTH HARD AND SOFT, and can furnish references on application. The Largest and Best Mills of this Country are using our System and Roller Machines. Messrs. C. A. Pillsbury \& Co., of Minneapolis, have over 400 PAIRS OF OUR ROLLS AND HAVE RECENTLY PLACED AN ORDER WITH US FOR ABOUT ONE HUNDRED AND TWENTY MORE. We have had a longer and larger experience in Roller Mill Building than any other manufacturers of this country. There is no EXPERIMENT ABOUT OUR SYSTEM and Rolls, so expensive to millers, and when the mills that we build or change over are ready to start, THEY DO SO AND WITH PERFECT SUCCESS, and there is no further changing, additions, stopping or expense. We manufactured and sold during the year 1881 over TWO THOUSAND FIVE HUNDRED pairs of rolls.

We can send competent men to consult with any millers who contemplate an improvement, and whom they can depend upon as being RELIABLE AND THOROUGHLY COMPETENT to advise them as to the number and kind of machines required, best method of placing them and the change required, if any, in the bolting and purifying system. WE DO NOT URGE A GENERAL CLEANING OUT OF ALL OLD MACHINERY unless we clearly see such would be the ONLY COURSE TO PURSUE to make a SATISFACTORY AND RELIABLE MILL. In nearly all instances we can use all the Old Machinery, leaving it in its original position, or with as slight a change as possible. We aim to make the Improvement so that it will be a Profitable one to the Miller, and at the least expense possible.

Our System is THOROUGH and RELJABLE, and our Roller Machine Perfected by Long Experience, and the Miller takes no chances in using them, as HE DOES with the New Fangled Notions of Drive and Adjustment on many other machines now TRY. ING TO FOLLOW OUR IMPROVEMENTS and still avoid our Patents, in BOTH of which THEY FAIL. We were the first to advocate the Entire Belt Drive, and were opposed by every other maker, who claimed it was not positive, etc., etc., and now that our Belt Drive is an ACKNOWLEDGED SUCCESS, and will SUPERCEDE EVERY OTHER STYLE, these advocates of Gear Drive have suddenly learned that Belts are the Thing. The same may be said of our Spreading Device, Feed Gates, and Adjustable Swing Boxes. Other Makers are now copying these. ALL these Features, including BELT DRIVE with ADJUSTABLE COUNTERSHAFT and THGHTENER, the SPREADING DEVICE, FEED GATES, Adjustable Swing Boxes and Leveling Devices, Self-Oiling Boxes, etc., are secured to us by several Strong Patents, and we CAUTION MLLLERS in regard to these Infringements of Our Patents and Rights, for we shall look to THEM for Redress. The matter is in the hands of our Attorneys, who will soon take VIGOROUS ACTION against the Makers and USERS OF MACHINES infringing Our Patents.

Several machines are already on the market which Broadly Infringe, and we are informed that other makers are now changIng their Old Style Machines, and adopting in a large measure Our Improvements. BEWARE OF THEM.

Send for New Illustrated Catalogue, Civing full Information to

# EDW. P. ALLIS \& CO., 

 MILWAUKEE, WIS. Branch Office 318 Pine Street, Benson Block, SAN FRANCISCO, CAL.
## Southern Exposition at Louisville, Ky., 1883.

The Board of Directors has confirmed the following report of the Jurors on Awards for the Southern Exposition of 1883 , and decreed an award therewith as follows:

EREPORT ONN AWARDE
PRODUCT-Roller Mills (Gilbert \& Livingston). EXHIBITOR-STOUT, MILLS and TEMPLE, Dayton, Ohio

AWARD-A Medal tor the BEST ROLLER MILLS
The Award as made above is in the hands of the engraver, and will be delivered soon as completed Louisville, Nov. 26, 1883.

## The Gilbert Combination The Champions!

Acknowledged by ALL USERS and DISINTERESTED JUDGES to be the Best Combination Mill in the World.


## Reduction Roller Mill.



CHAS. BAKES, Lockport, N. Y., Sole Agent for New York, Pennsylvania, Virginia, W. Virginia, Maryland, New Jersey and

## Nordyke \& Marmon Co., INoIANAPOLIS, IND.

bUILDERES FROM THE RAW MATERIAL OF

## ROLLERMILLS,CENTRIFUGALREELS,

Flour Bolts, Scalping Reels, Aspirators, Millstones, Portable Mills,


## All Kinds of Mill Supplies 曾United States.

500 BARREL MILL IN MISSOURI.
read what an old miller who has thirty-four pairs of these rolls in constant use, says:
Messrs. NORDYE \& Marmon Co., Indianapolis, Ind.
OFFICE OF DAVIS \& FAUCETT MILLING, CO. Gentemen:-1n regard to the working of our new mill erected by you, will say it is working fully up to and beyond our expectations. Our
average work is fully 33 per cont. over your guarantee. Since starting our mill last July we have had no complaint of our flour from any market
where sold. It gives universal satisfaction, and we have it scattered on the trade from Chicago to Galveston. Texas. Our yields are all that are Where sold. It gives universal satisfaction, and we have it scattered on the trade from Chicago to Galveston, Texas. Our yields are all that are
attamable. We have tested it on both Spring and Winter wheats with satisfactory results on both varieties. Since the mill was turned over to us We have not changed a spout or a foot of cloth, nor have we found it required to make any changes. We have run as long as six days and nights
without shutting tean oft the engine, not having a "ecoke" or a belt to come off The mill is entirely satisfactory to us, and for a qline job of workmanship, milling skill and perfection of system, we doubt if it is surpassed in the United states to-day. It is certainly a grand monument
tothe ability and skill of Col. C. . Winn, your Milling Engineer and Designer. You may point to this mill with pride and say to competitors to the ability and skilil of Col. C. A. Wiln, your Milling Engineer and Designer. You may point to this mill with pride and say to competitor
"You may try to equal, but you will never beat it." Wishing you the suceess that honorable dealing deserves, I am,
Yours, ete.,

## 500 BARREL MILLIN ILLINOIS.

pfige of David Suppiger \& Co.
ear, and it gives us pleasure to say that your Roher Mills are doing splendid work and give us he principal markets of the United states at the highest prices offered for any flour. All the machinery made by you is first-class, and we would Hours respectfully,
not know where to purchase as good.

125 bARREL MILL IN INDIANA.
Nordyke \& Marmon Co., indianapolis, Ind. Gentlemen:-The 123 barrel All Roller Mill you built us has been running all summer, and does its work perfectiy. Before contracting with
you for this machinery we visited many Roller Mills throughout the West and Northwest, built by the different leading Mill-furnishers, and from
年 all we could sae, those built by you seemed to be giving the best satisfaction, and this is why we bought our machinery of you. Our mill comes
fully up to your guarantees, and the capacity runs over your guarantee. The bran and oifal is practically free from flour, and our patent and
 have seen; they run cool, and the interior does not sweat, and cause doughing of the flour. Judging from our success, we would recommen
other millers to place their orders with you.
Jours truly;

# The llnited Sitates 


MILW A UKEE, JUNE, 1884.

OUR SEMI-CENTENNIAL OF FLOUR MILL BUILDING.

Parties contemplating the erection of new Mills, or improving and increasing the capacity of old ones, will serve their best interests by corresponding with and submitting their ideas to us.

Single and Double Roller Mills,
Concentrated Roller Mills, Round's Sectional Roller Mills,

STEVENS CORRUGATION.


Simplicity of Construction,
Positiveness of Action,
Ease of Management,
Less Liability to Get Out of Order,
Less Power Required, Greater Capacity Obtained.
THE STEVENS ROLLS are the most widely known and universally used of any roll in the world. Send for illustrated catalogue and price list.

Beware of Second-hand Stevens Roller Mills offered by one of our competitors. They
since passed through a fire.

THE JOHN T. NOYE MANUFACTURING CO., BUFFALO, N. Y.


## ODELL'S ROLLER MILL SYSTEM.

Is now in successful operation in a large number of mills, both large and small, on hard and soft wheat, and is meeting with Unparalleled Success. All the mills now rumning on this system are doing very fine and close work, and we are in receipt of the most flattering letters from millers. References and letters of introduction
to parties using the Odell Rolls and System, will be furnished on application to all who desire to investigate.


## ODELL'S ROLLER MILL,

Invented and Patented by $\boldsymbol{U}, \boldsymbol{H}$. ODELL, the builder of several of the largest and

## AN ESTABLISHED SUCCESS

## $\rightarrow$ *POINTS OF SUPERIORITY**

possessed by the Odell Roller Mill over all competitors, all of which are broadly covered by patents, and cannot be used on any other machine.

1. It is driven entirely with belts, which are so arranged as to be equivalent to giving each
of the four rolls a separate driving-belt from the power shaft, thus obtaining a posifice differential motion which cannot be had with short belts,
 throwing oft the driving-belt, or that has adequate tightener devices for taking up the
stretch of the driving-belts. stretch of the driving-belts.
2. It is the only Roller Mill in which one movement of a hand-twor spreads the polls apart und shuts off the feed "t the same time. She lever brings the rolls back again exactly into working position , nd "t the same time
3. It is the only Roller Mill in which the movable roll-bearings may be adjusted to and
from the stationary roll-bearings without disturbing the tensio -spring. without disturbing the tensio -spring.
4. Our Corrugation is a decided advance over all others. It pruduces a more even granu
lation, more middtings of uniform shape and size, and cledus the bran betteri

We use none but the Best Ansomia Rolls.
OUR CORRUGATION DIFFERS FROM ALL OTHERS, AND PRODUCES
LESS BREAK FLOUR and MIDDLINGS of BETTER QUALITY.

[^2]
## MILWAUKEE, WIS., U. S. A. SOLE MANUFACTURERS OF GRAY'S PATENT Noiseless Beli Roller Mills WITEI <br> Wegmann's Patent Porcelain Rolls.

Unexcelled for reducing Middlings to Flour.
Far ahead of Smooth Iron or Seratch Rolls and entirely superseding the use of Mill

## Fead the Fiollowving Ietters.

## Terre Haute, Ind., Aug. 22nd, 1882.

Messrs. E. P. Aishs \& Co., Milwaukee, Wis
Gentlemen :-We are very much pleased with the whole eight set of Porceain Rolls you put in our Mill. The two double sets sent us soon after starting up our mill last fall, we put in place of two run of stones for grinding our coarse Middlings.

We find the Flour from the Porcelain Rolls much more evenly granulated and much sharper and celeaner than that we got from the stones, besides the second or ine Middlings are much better, being almost entirely free from germs and not as specky.

Yours Truly,
KIDDER BROS

Messrs. E. P. Allis \& Co Kings County Flour Mills, Brooklyn, N. Y., Aug. 15, 1882
Gentlemen:-You ask how I like the Porcelain Rolls as compared with Mill Stones. Thave been using the original Porcelain Gear Machines for five years and became conI am now operating your Improved Machine of increased size with nice adjustments, grainy and strong, and its Gray's Patent Belt Drive. The Flour it produces is beautifully with runs splendidy, gives no trouble, consumes less power than Mill Stones, dispenses ings is unequaled by any Machine reducng midangs and sor branny residuums and tailof practical experie any Machine, iron or stone, at least this is my opinion after five years of practical experience.

Yours truly, Head Miller Kings Co. Mills, Brooklyn, N. Y

ALSO SOLE MANUFACTURERS OF THE CELEBIRATED
REYNOLDS' of CORLISS ENGINE.


These Engines are especially adapted for use in Flouring Mills-being unsurpassed in Simplicity, Durability and ECONOMY OF FUEL, and far allead of any other

Automatic Cut-off Engines.

Send for catalogues of Roller Mills, Flour Mill Machinery, Saw Mill Machinery, Reynolds' Corliss Engines, etc., etc. Address :

Edw. P. Allis \& Co.. milwaukee, wis.

The following is a partial list of Flouring Mill owners who are using the Reynolds' Corliss Engines.



the works of the john t. noye m'fa co BUFFALO, $N$.
The John T. Noye M'fg Co. is known wherever grain is ground or bread eaten. This corporation is the result of the business established by John from a very modest beginning to enormous proportions. Mr. Noye died April 6, 1881, and the firm was incorporated ander later, and R. K. Noye is the president of the Company. Wenting pleasure in presenting herewith an illus-
tration and description of the new works now occupied by the Company. We quote the description from our esteemed Buffalo contemporary, the Milling World, and dare say it is very correct:
"In the fall of 1882, the firm purchased a large tract of ground in the block Avenue, Jersey, Fourth and Pennsylvania streets, and embracing about four acres of land. At the Jersey street end were the shops of the Francis Axe Comonce took possession of this building, using it as a roller shop. They then proceeded to fill in and level off the property, so as to make it a fit site for the extensive buildings which they proposed to erect upon it, and in due season commenced to build. The view given is of the side of the works fronting on Fourth street, and looking towards the lake. The slope towards the lake from the shops is continuous, so that there will be a fine and uninterrupted view at all times; the cool lake breezes will add to the comfort of the workmen in summer, while in the winter the buildings will be thoroughly heated by steam. Another advantage of the location is that it is but a short distance from the Erie canal, and the Noye Company own a strip of land running down from the shops to the canal, so that the facilities for shipping receiving by that route are very good.
The shops are none of them high, comparatively speaking. The firm berieve in gaining floor space by extending the dimensions or the building, rather than by piling story upon story, particularly where much heavy machinery is used, as in this case. By far the larger portion of the work will be done on the ground floor, on which, indeed, all
heavy machinery is located.
The entrance to the works is at the corner of Lake View Avenue and the engraving). upper left-hand cor formerly owned by the This is the building formerly owned by the
Francis Axe Company, and is the only par
$\left\lvert\, \begin{aligned} & \text { of the works which is not entirely new. It is } \\ & \text { now employed for the general machine shop; }\end{aligned}\right.$ at the left hand a set of three rooms serve as offices for the works. The machine shop is a long building, $281 \frac{1}{2} \times 42$, and is full of the very best machinery for general work. It is built of brick with a truss roof, and is twenty feet high in the clear. For about eighty feet of
its length a second story is finished off, which its length a second story is finished off, which
is used solely for storage purposes. A handis used solely for storage purposes. A hand
some engine room, $32 \times 32$, contains a fine 75 some engine room, $32 \times 32$, contains a fine
horse-power engine. This furnishes power for the general machine shop and the blacksmith shop only
To the right of the engine room is the foun-
dry, a brick building $120 \times 60$, dry, a brick building, 120x60, and twenty feet
high in the clear. Fspecial pains has been high in the clear. Especial pains has been
taken to secure free ventilation in this buildtaken to secure free ventilation in this building, and the desired end has been accomplished. At the side of the foundry, and running its
entire length, is an additional department entire length, is an additional department,
twenty feet wide, containing one cupola, with twenty feet wide, containing one cupola, with
room for another, core room, flask shop and room for another, core room, flask shop and
brass foundry. At the end of the foundry is brass foundry. At the end of the foundry is
another annex, $21 \times 96 \frac{1}{2}$, occupied by the clean another annex, 21x96 $\frac{1}{2}$, occupied by the clean-
ing room and sand room. The foundry runs ing room and sand room. The foundry runs parallel with Fourthilding of the works. This main building is a fine the works. $400 \times 50$, and two stories high. It is parallel with Fourth street, and runs through to Penn
hammers, and other necessary appliances.
The pattern shop, $132 \times 42$, is divided into two The pattern shop, $132 \times 42$, is divided into two
departments; one, two stories high and fortyhree feet long, for making patterns; the other, three stories high and eighty-nine feet long, for storing them. The former portion is eighteen feet in the clear; the other stories are 8 and 8 and a half feet high, respectively; this gives a good deal of room for storing paterns but it is needed, for the company has a very large line of patterns for flour mill machinery. There is an elevator in this shop aso. Power is conveyed to the pattern shop
from the Cummer engine by means of an from the Cummer engine by means of an
underground shaft. A barn. $135 \times 25$, is erected n one corner of the lot.
Every precaution has been taken to make the shops light, well ventilated, convenient and complete. The aim has been to make the estab-
lishment a model one in every respect. There is no crowding; in fact, we are told that the capacity of the works might be considerably increased without enlarging the buildings Nothing has been left undone that could con-
tribute to the comfort of the workmen, or the perfection of the work. It is needless to say that the machinery turned out in the future will not fall short of the high reputation tablished by on honorable career of half century. In the occupation of these new shops the Noye Company does not remove its


## New Works of The John

 ylvania street. It is divided by a brick wall ito two departments, the first the roller shop, 208 feet long; the second, the wood shop, 192 rinding and corrugating machines, pulley rinding and corrugating machines, pulley variety of planers and so on, including every he upper floor thirteen feet high, are none but light machines. In one corner of the per floor of the roller shop, a space of about upper floor of the roller shop, a space of about $36 \times 16$ is set apart for a tin shop. In the wood shop the same general rule is stairs.
The boiler room is located at the junction of he two last-named departments, and can be entered from either. It is $26 \times 65$ feet, and contains two large boilers, which, besides
supplying steam for the engine, also furnish spplying steam for the engine, also for heating the entire establishment, The fine 100 -horse-power Cummer engine ocated here, supplies power to both roller located wood shops, and also to the foundry and the pattern shop.
The wood shop contains one very large levator for lifting lumber and other heavy nd bulky materials. In the roller shop one at one end. Adjoining the foundry, and parallel with it, is a spacious blacksmith and parain, $97 \times 35$ feet, sixteen feet high in the clear.
shop
It contains several forges, two large power
oye Mfg. Cu., Buffalo, N.
 a portion of the extensive premises owned by on the west side of Washington street, just
opposite the old location, for office purposes drafting rooms, superintending millwrights: offices, etc., so that its numerous constituency of visiting millers will not be put to the trouble of hunting up the new shops, whe they have occasion to come to Buffalo.

## WHEAT FROM FAMINE LAND

A perceptible degree of alarm has been recently created in some commercial and in some agricultural circles by the reports that India is to produce at a low price, a ufficient abundance of wheat to supply the uropean market for A merican wheat, except at a price which would be ruinous to the American wheat producer. These reports are to the effect that the inhabitants of India, who live on a pint of rice a day to each man, are to engage largely in wheat production, that they will export the entire crop raised, and that systems of railroads gridironing the Indian peninsulas will transport this wheat to the India seaports, whence it can be shipthan American wheat is worth in Dakota. The proposition is so startling that it has attract
phan of things.
it has had a tangible effect on the grain markets of the West, if not of the world. There is no reason to suppose that these ad there are many reasons for supposing that ey are many reasons for supposing that
 evastated by peridical fomines swept and ome the granary of the world But a few years ago uncounted millions of the people of India died of which was sent starvation, and the relien xhausted the charities of civilized mankind for an entire year. The farmers of Illinois Visconsin Jowa Minnesota and Dakota, and of the far Saskatchewan valley may smile in derision at the efforts of the half-naked and ill-fed natives of India, in the best of imes to become serious rivals in producing mes to become serious rivals in producing the staple crop which requires intelligence,
industry and capital for its successful cultiindustry and capital for its successful culti-
vation. That a low-caste and yellow native ofion. That a low-caste and yellow native
onde with a Western farmer in the production of wheat is impossible. A few million bushels of wheat have be produced within a year or two in India; the mount is much greater than ever before raised on that part of the earth's surface for export. During our late civil war, also, coton was raised in considerable quantities in India and Egypt, and flattering reports were published assuring the manufacturing world that America, as a cotton-proready "played out," and that the East would furnish all the cotton which the human race might require Nobody now talks of the cotton of Egypt or India. It is possible that speculators and contraetors may build railroads from the East India seaports through the jungles to the plateaus where wheat might be cultivated with some success by an industrious and en But it may be safely men. that they will safely said wheat en will never carry ports to pay for the seastruction. The their conhordes who he nomadic elevated plains of the India will never become wheat growers so become they have mare's milk as drink and kid's flesh to That the broad and fertile plains of India, already more thickly populated han any part of the world, except Belgium and China, should produce wheat for ex

There has been hardly enough, or no more than enough, food raised in India during the nothing of raising enough to people, to say The productive apacity of the reed Europe The productive capacity of the country ha Thiere is no instance in hist wher oolie race have become producers of the thing for the general use of mankind, except tea and some few articles of luxury. They re lazy and improvident, and do not accumu ate property, and do not possess in their minas any of the incentives which make the of thean races great growers and shippers of the articles of commerce and industry Cotton raised by negro labor is not an exception to this statement of fact, for while it is cultivated by the manual labor of negroes, the thrift, energy and sagacity of white men is possible labor by which it is produced. It wheat plantations, owned and managed by European white men, may exist in India, and may help to supply the world's markets. But there is no immediate prospect of anything of the kind.-Journal (Chicago.)

## THE UNITED STATES MILLER

## United States Miller.

E. HARrison cawker, Editor.

PUBLISHED MONTHLY. Office, Nos. 16 \& H18 Grand Avenue, Milwauker.
SUBSCRIPTION PRICE-PEr Year, in Ady ance. To American subscribers, postage prepaid.
To Canadian subscribers, postage prepaid.
Foreign sabserititions
 otherwise agreed
For estimates
STATES MILLER.

## [Entered at the Post Office at Milwaukee, Wis., a econd-class matter.]

MILWAUKEE, JUNE, 1884.
We respectfully request our readers when they write to persons or firms advertising in this paper, United States Miller. You will thereby oblige not only this paper, but the advertisers.

Milwaukee mills are now turning out stock of wheat in store here is $1,014,000$
bushels.

Flour has been carried from Minneapolis and St. Paul to Milwaukee and Chicago at very low rates (private terms) during the past
month, owing to railway competition to lake ports.
The annual meeting of the Millers' National Association which was to have con-
vened at Chicago in June, is by order of the President and Sub-Executive Committee postponed to December next.

The Canadian Department of Marine has ordered the purchase of a Newfoundland
whaler, with which to explore Hudson's bay and establish the practicability of a steamship line to Europe for Northwe

About three-quarters of the Minneapolis mills are running, but none to full capacity During May about 100,000 barrels per week
were turned out. The amount of wheat in store at St. Paul and Minneapolis May 28 ,
was $2.671,700$ bushels, and at Duluth $1,670,000$.

## S. C. Dalrymple, the great Dakota farmer

 finished sowing 58,000 acres of wheat May 7 Last year he was not through until May 28 , three weeks later. He reports the ground inbetter condition now than ever before, and that he has used a cleaner and better quality of seed.
There is a home milling demand for al the good wheat left in the United States.
The amount of wheat in sight May 24,1884 , in the United States and Canada, was $17,978,563$ bushels. The crop prospects are good and
estimates of $500,000,000$ bushels of wheat for 1884 are considered near the mark.

## An English naturalist asserts that the hedge-hog cannot be poisoned, neither strych-

 hedge-hog cannot be poisoned, neither strychnine, arsenic or prussic acid, having any effectupon it. It eats adders, regardless of their upon it. It eats adders, regardless of their
venomous fangs. If this is true why would nor poison. If any of our readers try it and for poison. If any of our readers try
survive, please let us know all about it.

The defeat of the Morrison bill has not ing of the tariff, but it is generally believed that no tariff bill will reach a vote during the present Congress. The welfare of the country
demands that the tariff should be let alone, for a considerable time, at least.

The exports of breadstuffs during April, as will be seen from the published statistics, amounted to $\$ 12,257,185$, against $\$ 12,465,979$
for the same period in 1883 . The increase is in both flour and wheat, $4,675,410$ bushels of the latter in April, 1883, against $9,221,635$
bushels, and 698,827 barrels of wheat flour, bushels, and 698,827 barrels of wheat flour,
against 728,362 barrels for the month ending April.

Agricultural writers are now amusing themselves by telling their readers how much writer says it will produce $\$ 14.50$ worth. This is at the rate of three-fourths of a cent a pound for the bran. Pretty good material for manure
this, and the only one we ever heard of that would give such results. We know of some of bran. They are not called flour mills now-a-days, however. They are now known as corn cob mills.-The Mitlers' Review

The Milwaukee Industrial ExposiTION will open September 13th and close October 18th. Manager Mercein has just completed the rules and regulations, copies of desiring to make exhibits. It is intended to
hibition the largest and most complete hope manufacturers of flour milling machinery will be fully represented. Full information can be obtained by addressing Manager Mercein, Milwaukee Exposition Building, Milwaukee, Wis

During the past month we have been favored with calls from the following gentle men, well known to the trade: W. D. Gray, M E.,Milwaukee, Wis.; W. J. Stemler, Faribault Minn.; Fred. Cranson, Silver Creek, N. Y ler, Brooklyn, N. Y.; U. Legler, Elmore, Wis. F. Klopfleisch, Milwaukee, Wis.; William
Froklyn, N. Y.; Legler, Elmore, Wis. Trudgeon, of the Richmond Manufacturing Co., of Lockport, N. Y.; W. Thayer, of the
Thayer Mill Furnishing Co., Westerville, O.

It has been estimated that the annual loss by fires in the United States is about $\$ 100,000$ 00 . This is twice as much per inhabitant as the loss in Great Britain, four times as much as that of France, and six times as much as
that of Germany. It is nearly as much that of Germany. It is nearly as much as
the amount collected on internal revenue. It is estimated that $\$ 3$ per annum is collected per head in the United States on account o careless or premeditated destruction of property by fire, and the means used to prevent
the same, in the country.

The Allgemeine-Mueller Zeitung says, in ount number, that the use of hops has been elling worms from grain, as the worms wi leave immediately after the hops are added. It has been observed that the strong odor is tively small quantity (even of a comparacommon variety), when mixed with the grain is to ins should be perfectly ventilated and kept clean. This remedy is not in the least injurous to grain itself. The grain may be groun move the small particles of hops.

Mr. W. Thayer, of the Thayer Mfe and Mill Furnishing Co., of Westerville iness of the Company to be good, especially in the Central and Eastern States. Mr. Thayer is now making a tour of the NorthThayer Common Sense Three-Reel Bolt and the Thayer Pneumatic Middlings Purifier have been already introduced into a great satisfaction. Our readers will do well to write to the Company and get their 1884 cat alogue. See advertisement on another page.
The treaty in relation to patent rights is now before the U.S. Senate for consideration
The treaty was agreed upon at a conference held in Paris in March of last year, and at tended by representatives of all the leading nations of the world, except the German Em-
pire. Its object is to secure for the inventor pire. Its object is to secure for the inventors and proprietors of trade-marks and patents the compact, and it guarantees to the citizens of each country the same advantages and privileges enjoyed by the citizens of all the other contracting nations; the same protec tion and the same legal remedies for wrongs
are afforded.

The Sibley College of Mechanical Engineering at Ithica, N. Y., has just received
another gift from Hon. Hiram Sibley another gift from Hon. Hiram Sibley, of
Rochester, N. Y., of $\$ 35,000$. The money is to be expended for adding draughting-rooms, machine-shops, mechanical laboratory, ma given $\$ 8,000$ to duplicate the set of models in machine construction executed under the orders of the German Government at Berlin $\$ 50,000$ to the endowment intention of adding of Mechanic Arts, thus making his total gifts considerably over $\$ 150,000$. This college possesses the best facilities for giving young men an excellent course of mechanical train Its object is to fit the American youth for a useful life. We have too many professional men and too few mechanics.

A delegation of seventeen prominen Dakota citizens have just visited Milwaukee for the purpose of conferring with Milwaukee all elevator privileges on the Chicago, Mil waukee and St. Paul Railway in Dakota are controlled by one company and all on the Chicago\& Northwestern by another company, In their interview with the Chicago, Milwaukee\&St.Paul officials, the delegation obtained a concession allowing any farmers to build any point where they claim that full justice is not done them either in the matter of stor-
delegation express themselves as perfectly satisfied with the result of their visit here, and have continued their journey to Chicago to visit the officer

## a milwaukee marine elevator

In these times of close competition in the milling trade, every improvement which lessens the expense of handling grain or manufac turing flour is of the utmost importance. The Marine Elevator recently erected at the Eagle Mill of Messrs. J. B. A. Kern \& Son of this city, is one of the most important additions in the matter of convenience and saving of labor, time and consequently o money, ever made to a mill in the West. It is the only mechanism of the kind west of Buffalo.
A huge tower constructed in a most substantial manner, 120 feet in height, has been rected at the rear end of the mill close to the edge of the dock. This tower contains all the machinery for elevating and the mechanism for propelling the steam shovels in the hold of the grain carrying vessel or steamer. The vessel having been brought into the proper position, a huge adjustable elevator leg is let down through the hatchway, into the grain in the hold. As soon as it is properly adjusted the elevating machinery is started and the grain running in at the bottom, is rapidly levated, discharged into weighing hoppers and thence spouted to any bins in the build ing desired. As soon as the grain immediately about the bottom of the elevator leg begins to get low the steam shovels driven by a system of ropes and pulleys, are set at work, which scrape the grain from a distance up to such a position that it will rapidly feed into Cessrs. Kern \& Son's mill The apparatus a apacity of 10,000 bushels per hour, and thei grain storage capacity is not far from 200,000 bushels. We saw a cargo of nearly 50,000 bushels of "No. 1 Hard" from Duluth unload ed in a few hours May 30. Messrs. Kern \& Son are now able to have the best wheat in Amer ca delivered at minimum cost in their mil eady for grinding, and from actual figure we are convinced that with the present faci ities for handling grain and making flour hey can turn out as good a quality of flou or as little money as any mill in the world. Mr. P. Robertson, of Mil waukee, directed th entire construction of the elevating machinery, ably assisted by Pierce Clark of R Dunb \& Co. of Buffalo, The fine performance the machinery on its first trial, speaks wel for the mechan ical ability of these gentlemen

## ITEMS OF INTEREST.

SACKCLOTH or canvas can be made perfectl impervious to moisture, equal to leather, by teeping th a decoction of one pound of oak The cloth has to soak twe fy bour it is take out, pased through hours, whe and hung up to dry This runk water ient hung up to dry. This quantity is suff保 for eight yards of stuff. The flax an the same time better fitted to resist wear.
a Hectograph.--The French is for several reasons, we understand, superior to any othe he composition is as follows

## Good ordin Glycerine. Barium sul <br> (Or the same amount of kaoline)

.${ }^{100} \mathrm{p}$
.${ }^{50}$
.${ }^{55}$
Some use nothing but the glue
and water. A piece of tin turned glycerin and water. A piece of tin turned up at the
edges half inch will hold the mixture. First dissolve the glue in water, heat it, add then the glycerine. Use aniline ink.

I have seen a good deal of fine work turned out by St. Louis machine shops, but about in a long tob that has come under my notice for a local thour mill, whiple of smooth roll efore they were delivered 1 came across just before they were delivered. One of these the foreman laid lengthwise on the top of th ther and while he held a lighted candle on f the candle set, I tried to catch a glimps the candle rays from the other side by look Ithg, or rather trying to look, between the rolls though that part of the room was dark, light. The rolls were next placed side by side, in contact, and some putty was placed betwee them near each end, so as to form a kind o trough, which was filled with water. I hop no one will think I am exaggerating when I say that not a drop of water passed between
the rolls to the floor, although it was allowed to stand for quite a while.-Age of Steel.
A LADY correspondent of the Michiga Farmer (Detroit), writes as follows
I will give my way of making salt-rising bread: Take half a teacupful middlings, pinch of salt, pour in boiling water and sti it up; set in a warm place to rise. Make this the day before you wish to bake. Take one or two spoonfuls of this rising, or the whole flour, set in a warm place to rise. I pou
boiling water in the flour and enough cold to cool it-about half and half; let this spong rise, after you put your bowl of emptying set in a warm place. Knead the loaves and your baking done in the morning in this way
To make a good stain for ebonizing wood take one gallon of vinegar, one-half pound o green copperas, one-quarter pound of China blue, two ounces of nut gall, two pounds o
extract of logwood. Boil over a slow fire extract of logwood. Boil o
then add a pint of iron rust.
What Paint Best Protects Inon? Among all things that require most protec tive paint, for iron, says an exchange, are carriages, farm wagons, plows and agricul tural machinery, from which fact it seem plausible that manufacturers of the like ought to be able to give the best information required; but too often, on the contrary, they are the very class least likely to have made a study of the matter. Any mineral paint, on general principles, would be most apt to fidently effectually prod that the paine Not in color is it as well suited, but that is only a secondary consideration, and easily overcome by painting it over with color desired. It contains the following advantages for the preservation of the iron, which is the main object to be gained:

Dries easily with raw linseed oil, without an oil-destroying drier.

After drying it remains elastic, giving way both to expansion and contraction of It imparts no oxygen to iron, to crack. constantly exposed to damp-a fact to which all farm wagon makers can testify.

It hardens where it has been spread hickly without shriveling, forming the nation of all paints. As proof of this assertion, it is used by calico-printers for redfigured prints, holding.out against soap and water; by gas-pipe fitters as the best paint to resist ammonia and tar; by the English ironship builders for painting the hulls of iron ships-namely, two coats of red lead and two of zinc-white; by wagon and plow-makers for painting wagon-gears and plows; by knowing carpenters for painting wood that comes in contact with damp brick in walls, s it preserves wood from rot, insects, etc.
For the benefit of those who are unin structed how to mix pure red lead for paint it should be made known that pure red lead powder, after being slightly pressed down When the finger, shows When they arsily round in pued luality. It should be ground in pure, old inseed oil, and if possible, used up the same day, to prevent it thus losing in quality before it is applied, sary, as in the course of a few days the oil fary, as in the course of a few days the oil lead. American linseed oil is as good as any imported, where the manufacturer has given it age, and not subjected it to heat, as is the custom, by steaming it in a cistern to qualify it quickly for the market. It deteriorates in quality when heated above $160^{\circ}$ Fahr. This quality when heated above $160^{\circ}$ Fahr. This red lead paint spreads very easily over a sur-
face, and the best of finish can be made with it, even by a novice in painting
TAR Smoke for Diphtheria.-Ruth Lockwood, the nine-year-old child of Thomas Lockwood, a compositor in the N. Y. Times office, became violently ill with diphtheria on Tuesday night. She was so weak that it was utting dangerous to try tracheotomy, Dr. Nichols of 117 West Washington Place who was attending her, received a copy of madis Figaro, which contained Medicine by Dr. Delthil. Dr. Delthil said that the vapors of liquid tar and turpentine would dissolve the fibrinous exudations which choke up the throat in croup and diphtheria. Dr. Delthil's process was described. He pours equal parts of turpentine and liquid tar into a tin pan or cup and sets fire to the mixture. A dense resinous smoke arises, which obscures the air of the room.
The patient," Dr. Delthil says, "imme dately seems to experience relief; the chok ing and rattle stop; the patient falls into sumber and seems to inhale the smoke with leasure. The fibrinous membrane soon be pomes detached, and the patient coughs up may be seen. These, when caught in agas course of three days afterward the patin entirely recovers." Dr. Nichols trie
Dr. Nichols tried this treatment with little Ruth Lockwood. She was lying gasping for bout two tablespoonfuls of liquef pouring an iron pan, he poured as much tur on ver it and set it on as much turpentine moke which rose to the ceiling was by moke which rose to the ceiling was by no hild's breathing became nated the room the smoke grew dense became natural, and as the

THE UNITED STATES MILLER

## BREADS

It is not difficult to make good bread if certain fixed principles are kept in mind, and some facts; light bread is not only more palatable but actually more nourishing than that which is heavy and soggy, because it more readily permits admixture with the gastric juice, in the process of digestion.
Bread is made light by the mechanical action of carbonic acid gas upon the dough; this action is produced by the fermentation arising from the use of yeast with flour and water under certain conditions of warmth
the process being called "raising" the dough It has been proven by scientific investigation, that the best and most nutritious bread is that which can be raised most quickly, because in prolonged raising, or fermentation,
some of the nutritious elements of the flour are lost. Dough for bread can also be raised by using leaven, which is a piece of sour dough savied from one baking to the next, dough saved from one baking to the next,
salt-risings, cream of tartar and soda, and baking-powder, which is a combination of the two last named ingredients with starch or rice flour.
The three first methods are usually slow, owing to the quantity of yeast or leaven employed, and more or less of the nutriment in the flour is destroyed by fermentation; in
using cream of tartar and soda, or any bakusing cream of tartar and soda, or any bakas soon as the water used for moistening the dough unites with them; this dough mist be dough unfore the gas escapes, otherwise the bread or biscuit will be heavy; in using this process very little nutriment is lost from the flour.
The best flour for bread is made from what is called winter wheat; the flour has a slight in the palm of when a little of it is presse in the palm of the hand it retains the mark of the skin after the pressure is removed; i mixed with water it absoros more than fin white flour, and forms a tough elastic dough from the quantity of gluten it contains. Fine whice flour, which is nearly all starch, doe not make the best bread, it looks white and tastes well, but is less nutritious than tha made from a stronger and darker foread Below are given directions f
by these different methods.

Home-Made Bread, Slow Process.-Fo two loaves of medium size use three and a half pounds of flour, reserving half a pound for kneading; put three pounds of flour in a bread-pan or wooden bowl, make a hollow in the centre, without exposing the bottom of the pan; put into this hollow a pint of lukewarm water, a heaping teaspoonful of salt, and a gill of good yeast; mix with the water and yeast enough of the flour to make a thick smooth batter; gradually mix in the rest of the flour, working the dough with both hands until it is soft and smooth; then gather it from the pan, dust flour under and over it, cover it with a thick towel folded several times, and place the pan where no cold draughts can lower the temperature of the mixed with the yeast and water, the remainder being left around the sides of the pan to protect the sponge, or thin batter or sponge is set to rise at night, and is light enough in the morning to knead and prove, before baking; this lightness is shown by the presence of innumerable bubbles of the gas making it porous or "light." By increasing the quantity of yeast the process of raising the quantity of yeast the process of raising
the bread is hastened, but care should be taken to avoid using yeast enough to make it bitter.
When the dough is light, turn it out on a floured bread board, and work or knead it with the hands, using flour enough to prevent it sticking to them, for fifteen minutes; then form it in two loaves, put them in buttered pans, cover the pans with a folded towel, and
place them near the stove to rise to twice their volume; then prick the loaves two or three times with a fork, brush them with melted butter or milk, and bake them in a moderately hot oven, taking care that they do not burn. To ascertain if the bread is done run a knitting-needle or small knifeblade into the centre of the loaf; if it has no dough or moisture on it when it is withdrawn
the loaf is properly cooked. If a hard crust is desired let the bread cool without covering it; if it is wanted soft wrap it in a towel until it is cool.
Sometimes in warm, damp weather breaddough or sponge will sour before it is sufficiently light; in that case when the dough is light dissolve a saltspoonful of baking-soda in half a cupful of lukewarm water, and thoroughly incorporate it with the dough additional flour; only enough soda should be used to correct the acidity of the dough; and, as already directed, it must be very carefully mixed with the dough, or it will show
throughout the bread in yellowish spots after
it is baked. it is baked.
Home-Made Bread,Quick Process.-For two medium size loaves of bread use three or kneading, reserving a quarter of a pound pressed or German yeast in one cupful of lukewarm water, put it into an earthen bowl and mix with it flour enough to form a batter which will for a moment hold a drop from the mixing spoon; cover the bowl with olded towel, place it near the fire, in some place where it is possible to bear the hand, and let it rise until it is full of little holes, or about twiceits original volume; this will be in about half an hour; then add another cupfu of lukewarm water containing a teaspoonful of salt, and enough more flour to make a sof dough; turn this out on a floured board, and flour to prevent the hands being moistened with the wet dough; when the dough is properly kneaded divide it in two loaves, put them in buttered pans, cover them with folded owels and set them near the stove to rise to wice their volume. When the loaves are to the directions given in the preceding recipe.
This preparation of dough can be baked in the form of biscuit or rolls, a tablespoonful of melted butter being stirred into the dough brushed with a teaspoonful of sugar dissolved in milk to make them glossy, before taking them from the oven.
Salt-Risings Bread.-This bread is very white, moist, and sweet, somewhat resemling baking-powder bread, and is useful for hose emergencies when yeast cannot be obained; but it is less nutritious than quick mentation is prolonged. To make it, put a waterinto atwo with a tea of salt and sugar, and a salt spoonful of
soda, and let the pitcher stan n the table un il its contents to permit the placed in them without burnbeat in sufficient flour to form a batter thick enough to hold a drop from the mixing spoon; set the pitcher in a kettle of water just warm enough oo bear the hand without burning, cover the pitcher with a folded towel, and keep the water at this temperature until the batter is foaming and has risen to twice its origina height. This may be three or four hours. When the batter is properly risen, mix with it flour enough to make a soft dough, and knead it as directed above, for five minutes then form it into loaves, put them into but tered pans, let them rise until their volume
is doubled, and then bake them like other tered pa
is doubl
loaves.
SodA

Soda Bread.-Sift together three times two pounds of flour, a heaping teaspoonfu each of salt and baking-soda, and two heaping teaspoonfuls of cream of tartar. Have ready two iron bread-pans well buttered, and see that the oven is hot; then quickly rub or butter, and mix it to a soft dough with a pin of cold milk or water. Work as fast as pos sible; the success of bread of this kind depends upon the rapidity with which it is mixed and baked.
Biscuits.-Biscuits are made like soda bread: or, two heaping teaspoonfuls of bak ing-powder are sifted with a level one of salt and a pound of flow, and then they are finished as the bread is, except that they are baked in small bits instead of in loaves.
More butter or lard is used with biscuit han with bread, and milk is generally liked for mixing them.
In general bread-making, various additions are at the discretion of the cook. Sometimes potatoes, boiled and mashed, are mixed with the dough or sponge of bread; they make the bread more solid and moist, but do not increase its nutriment. Lard, butter, sugar and milk, are used at discretion; but it with flour, salt, water, and the "raising' agent, is the most palatable and wholesome

Tinning Boxes for Babbity,--Clean the shells, wet with muriate of zinc and one-tent shell, heat until the tin melts, rub the tin over the iron (with a piece of wood) and throw off the surplus. The babbitt ought to hold to shells thus tinned.
the "eureka" automatio arator.
The introduction of wire binding attach ments to the reaper, made some sort of an apparatus for removing the pieces of wire eft in the grain after being threshed an absolute necessity. To effect this, the common horsehoe magnet, arranged in gangs and placed in the spouts through which the grain lowed, was used. The use of these magnet evealed the fact that a large amount of othe metallic material, aside from the wire used in binding, such as small bolts, nails, tack pieces of sheet-iron and particles of ore were ound mixed with the grain, which could not magnetic arrangement.
The gang magnets were found to be defec ive, as it was found necessary to remove them from the spouts at stated times and brush off, by hand, the metallic material that had been attracted to the magnets. While this was being done it was also necessary to stop the flow of grain, otherwise the metallic hese difficulties is the design of the machin here illustrated.
A new patent was granted, for an important change by which the machine was greatly iron being placed on the poles of the magnets which becomes charged with magnetism making a strong magnetic field for arresting in grain. It also serves as an armature or keeper for preserving the strength of the strength of the magnets will remain the same for an indefinite period. A feed-roll has also been added, which makes the flow of grain niform and even.
The cut here shown illustrates the above described machine, and its follows
The grain is fed into the hopper, and by distributed evenly the entire length of
the machine. It first falls on heavy zinc which being a
non-conductor of magnetism particles of mixed with grain, for until hey reach the magnetized sheet-iron, where he iron particles are held until removed by the wiper attached to an endlessbelt which passes over it once a minute, deposit ing them in a box at the end of the machine From above description it will be seen that the machine is simple and dura
tirely automatic in its operation.
The experience of those using the ordinary magnets has shown that no miller, although he may not grind grain harvested by reaper having the wire-binding attachment, can afford to be without something for removing this material, and especially is this the case when rolls are used, to say nothing of the immense damage done to bolting cloths wher no precaution is taken. This machine will, no doubt, pay for itself many times each year even in a mill of small capacity.
The price of these machines has been reatly reduced and the Automatic principl able. The machines are manufactured by the well known firm Messrs. Howes Ewell, of Silver Creek, Chatauqua Co., N ., who will be plea

## sermon at sailors' snug harbor

The frontispiece of the June Century is an Richard Randall, the founder of "Sailors' Richard Randall, the founder of "Sailors H. North contributes a lively anecdotal paper in. Nor Harbor from which we quote a typical sermon of the Snug Harbor preacher
"Chaplain Jones, already mentioned, pre sides at the little church in the grounds of the Harbor. He is a sailor himself, having served before the mast many years, and knows how to talk to those who 'follow the sea When a mere lad he ran away from his English home and shipped aboard an East Indiaman. He is about sixty-five now, and many years ago forsook the sea to study theology As soon as he was qualified, he went among the sailors of the great lakes, and afterward opened a Bethel in St. Louis. Then he returned hither and became pastor of
the Mariners' Church. Worn out from early exposure and hardships, he was about to start for Europe in search of health and
rest, when he was appointed to his present post by the trustees.
" The visitor to the Harbor who fails to hear him address his shipmates robs himself of a spectacle at once interestjng and unique. Familiar with the characteristics of the sailor Dr. Jones addresses them in his own language,
and this is the prime reason of his influence over them.

Here is the substance of a sermon from the text, 'Let go that stern-line ' which is
given in substance: 'I once stood on the wharf watching a brig get ready for sea,' began the Rev. Mr. Jones. 'The top-s'ls and courses were loosed, the jib hung from the boom, and the halyards were stretched out ready to run up. Just at this moment the pilot sprang from the wharf to the quarterdeck, inquiring as he did so of the mate in command, 'Are you all ready?

All ready sir,' said the officer. Then ib!-He command: 'Stand by to run up that your head-fast and stand by go that stern-line!- Let go - Man the top-s'l halyards-Run 'em up boys-Run 'em up! Does the jib take?-Haul off that starboard sheet!'
Hilloa! Hilloa! What's the matter? What's fast there? Starboard the helm! Starboard!' shouts the pilot. 'What holds her? Is there anything foul aft there? Why, look at that -Heave off that turn

It's foul ashore, sir!' says one of the crew. 'Then cut it, cut it! D'ye hear? Never
". By this time there was a taut strain on the hawser. A seaman drew his sheath-knife across the strands, which soon parted, the rimmed to the breeze, and the brig Billow filled away.
so, too, when I see men who have immortal souls to save, bound to the world by the cords, the hawsers of their sins, then I think of in your breast-lines and haul out from the shores of destruction. Fly as Lot from the guilty sudom! Oh, let go that stern-line." "

Columbus, Ga., Water Power.-There are many people now visiting Columbus to whom it may appear a little marvelous, but the water power of this city is sufficient to ing machinery. Within the lowest stage of the river there is, within two miles of of city, a fall of 125 feet, with 300 horse power to the foot fall, which gives a total powe power of 37.500 , During nive a total horse year the volume is double months of the year the volume is double and gives an inreased pout 0,00 horse power. It Eagle and Phenix, the Muscogee drive the ,umbus Ils which is mills-only about one-tenth of that which is available. In order to show the immense power of this volume of water, let the calculation be made. Mechanically speak ing, a horse power is the equivalent of raising $\quad 3,000$ pouds one foot high in one mimute of time, but the expression horse power is to The actual work of a aco the f raising 25.000 pounds one foot high in one minute for seven hours out of twenty-four ince a steam engine will work continuousl it follows that one horse power of the engine equal to 43 horses. Now make the calcula tion and you will find that the awter powe at Columbus is equal to raising over 7,500 , 000,000 pounds one foot high per minute
With a view of avoiding explosions, M. Chilumberger recommends that a bottle of ammonia should be placed in each barrel of wise, the On ignition by accident or niacal vapors would at once extinguish the fire. Dr. Pietra Santa proposes to apply this Tanks filled with ammonia, would, it is said, stop the combustion, as it could not continue in an ammoniacal atmosphere.
An Immense Dam.-A French engineer in Brazil has lately been selected to construct what will probably be, when completed, the 940 feet long by 58 feet high, The dam will be

THE UNITED STATES MILLER

United States Miller.
UBLISHED MONTHLy.


MILWAUKEE, JUNE, 1884.

## ANNOUNCEMENT

 and Henry F.
land, are authori
STATES Miller.

## We send out monthly a large number of sam-

## millers who are not subscribers. We wish then

subseribers. Send us One Dollar in money or
atamps, and we will send THE UNITED STATE

## MLLLER to you for one year.

4F The United states Consuls in various parts of the world who receive this paper, will please
oblige the publishers and manufacturers advertising therein, by placing it in theiroffices, where it can be seen by those parties seeking such information
as it may contain. We shall be highly gratified o receive communications for publication from Consuls or Consular Agents everywhere, and we
believe that such letters will be read with interest, and will be highly appreciated.

Cawker's American Flour Mill and
Mill Furnishers' Directory for Mul FURNishers Directory for 1884,
pulished by E. Harrison Cawker, of Milwaukee,
Wis., and sold for ( $\$ 10.00$ ) ten dollars per copy, is published by E. Harrison Cawker, of Milwaukee,
Wis., and sold for (\$10.00) ten dollars per copy, is
now ready for delivery. It shows the result of an mmense amount of labor, careful inquiry. and
tudious attention to details. It is without doubt
he most accurate trade directory ever published,
nd will be of untold value to those desiring to reach and will be of untold value to those
the milling industry of America.
We glean from this neat volume of 200 pages con-
taining no advertisements, that there are in the
United States of America nited Stater Canada 25,050 flouring mills, taking the Dothey go great and small. The work indicates in about
10,000 instances the kind or kinds of power he mills, and the capacity in th further indicates cornmeal., buckwheat, rye-flour and rice mills. It shows that the number of mills in
the various states and territories of the United States 343; Californs: 22ab; Colorado 54 ; A Connecticut 288; Da-
kota 81; Delaware 98; District of Columbia 5; Florida 66; Georgia e31; Idaho 21; Illinois 1123; Indiana 1089;
Indian Territory 14; Iowa 790; Kansas 489; KenIndian Territory 14; Iowa 790; Kansas 489; Ken-
tucky 73; Louisiana 61; Maine 280; Maryland 353;
Massachusetts 340; Michigan 846; Minnesota 487; Massachusetts 340; Michigan 846; Minnesota 487;
Mississippi 386; Missouri 1025; Montana 21; Nebras-
ka 250; Nevada 13; New Hampshire 182; New Jersey 42; New Mexico 32, New York 1992; North Carolina
848; Ohio 143; Oregon 145; Pennsylvania 3142; Rhode Island 51; South Carolina 274; Tennessee 801; Texas
703; Utan 110; Vermont 274; Virginia 781; Washington
Territory 61; West Virginil Wyoming 2 .
In the
In the Dominion of Canada we find the record as
follows: British Columbia 17; Manitoba 54; New
Brunswick 198; Brunswick 198; Nova Scotia 102; Ontario 1160;
Edward's Island 39; Quebec 531. Total 125,050. Taking the work throughout, and it is highly in-
teresting to all concerned in the trade, and we take
pleasure in recommending it

THE export of wheat from Australia to Europe for the present year is estimated at
$20,000,000$ bushels.

Thirty-eight thousand five hundred and ninety-seven immigrants arrived in the United States during the month of March
IT is reported that the Geo. T. Smith Mid-
dings Purifier Co, soon will dlings Purifier Co. soon will commence an
action against Messrs. W. \& J. G. Greey of action against Messrs. W. \& J. G. Greey of
Toronto, Canada, for infringement of their patents on centrifugal reels.

IT now seems probable that all the bills introduced in Congress relating to patents during this season will be beaten, and that present law

An Austrian exchange commends the tion to the milling interests of Minneapolis, and suggests to Austrian millers the wis-
dom of following the example set by Minneapdom of follo
olis millers.

We have received a copy of the 1884 Wheel book of the Flenniken Turbine Co., of Du buque, Iowa. It contains much interesting
matter to water-wheel users and sets forth matter to water-wheel users and sets forth
the advantages of the Flenniken Turbine in the advanta
good shape.

May 17, the N. Y. flour trade committee resolved all flour inspected sound shall have the name of the New York Produce-Exchange inspector and grade it represents, together with the month and year, branded upon each sack and on the side of each barrel.
August Hauck, milling expert, in Glatz, Schlesien, Germany, writes us that he has
discovered a method of exterminating all indiscovered a method of exterminating all in-
human life. The Berlin Board of Health
has experimented with it and pronounce it a the firm of Grant and Ward, and that good thing. by the failure, but Gen, Grant should never have allowed himself to be connected with any firm of Wall street gamblers. The people knew this long ago, and Gen. Grant knows it now to his sorrow.

## FLOUR IN SANTA CLARA, CAL

It might be expected that a section as famous for its fertility as is Santa Clara coun The product of this valley is and so it is. esteemed as the best in the Sta is generally does from lands of exceptionable fertility. does from lands of exceptionable fertility.
The milling business, which depends on the The milling business, which depends on the
flouring interest, is therefore a flourishing one, and a notable representative of it is found in the White Rose Flouring Mills, at fanta Clara. This establishment, though ighly successful from a business point of iew, is but of recent growth, its establishment not dating back any farther than 1879. It takes a great deal of practical knowledge
to make a successful miller, and more of financial ability to make a flour mill a success -the results of five years' work are therefore in themselves testimony of the qualities and character of those to whose hands the destinies of this institution have been entrusted The size of the mill is 175 feet by 300 . It cos sixty thousand dollars, and is a three story three hundred barrel mill, capable of turning out 90,000 barrels a year. Fourteen hands are employed there. The officers are H. M. Leonard, president, - Mayberry, vice-president H. Black, secretary and treasurer: super intendent, J. A. Baker-all practical business men. The superintendent has the entire charge of the mill, is a practical miller, particular, and is emphatically the right ma in the right place. The flour made is gener ally pronounced as amongst the best in the State, and finds a ready market, not only in the Santa Clara valley, but in San Francisco and the Pacific States generally, and ha been received with favor even in England There is easy transportation by rail or bay from the mill to San Francisco, to deep wate cific Coast, or even the East, and at favorable rates. The mill is supplied with all the latest improvements and inventions in the science of milling, and produces an article at th well worthy the traditional reputation of California.-S. F. Journal of Commerce.

## M. PASTEUR'S LATEST DISCOVERY

## HYDROPHOBIA SUCCESSFULLY COMBATTED

M. Louis Pasteur, the celebrated French chemist, claims to have made a discovery of the most vital importance-nothing less, in for hydrophobia. In an interview with a for hydrophobia. In an interview with
Figaro correspondent M. Pasteur says: Cau terization of the wound immediately afte the bite, as is well known, has been more or less effective, but from to-day anybody bitten the Laboratory of the Ecole Normale and at inoculation I will make him Normale and by inoculation I will make him completely insusceptible to the effects of hydrophobia of mad dogs. I have been devoting the last four years to this subject. I found out in the first place that the virus rabique loses its intensity by transmission to certain animals and increases its intensity by transmission to other animals. With the rabbit, for instance the virus rabique increases; with the monkey
it decreases. My method was as follows: ook the virus direct from the brain of a that died from acute hydrophobia. With this virus I inoculated a monkey. The monned in intensity, taken from this monkey, inoculated a second monkey. Then with the virus taken from the second monkey I inoculated a third monkey, and so on until I obtained a virus so weak as to be almost harmless. Then with this almost harmless virus I inoculated a rabbit, the virus being once increased in intensity. Then with a second rabbit, and there was another increase in the intensity of the virus. Then with the virus of the second rabbit I inoculated a third rabbit, then a fourth, until the virus had regained its maximum intensity. Thus I obtained virus of different degrees of power. I then took a dog and inoculated him first with the weakest virus from the rabbit, then with the virus from the second rabbit, and finally with the rabbit virus of maximum intensity. After a few days more I inmum intensity. After a few days more I in-
oculated the dog with virus directly from the brain of a dog that had just died of acute nadness. The dog upon which I experimented proved completely unsusceptible to hydrophobia. The experiment was frequently repeated, always with the same successful " But

But my discovery does not end here. I fur hi
took two dogs and inoculated them both with virus taken directly from a dog that had just died of acute hydrophobia. I let one of my mad and died of acute hydrophobia. I subjected the second dog to my treatment, giving him the three rabbit inoculations, beginning with the weakest and ending with the strongest. The second dog was completely cured, or rather became completely unsusceptible to hydrophobia."
M. Pasteur then went to a kennel and caressed a dog that had undergone this latter operation. Said M. Pasteur: " Whoever gets bitten by a mad dog has only to submit to my three little inoculations and he need not have the slightest fear of hydrophobia." From $P$
May 19:
Making and Applying Kalsomine.Kalsomine is composed of zine white mixed in proper proportions with water and glue sizing. The surface to which it is to be ap plied should be clean and smooth. For ceil ings the following recipe is recommended Mix one half pound of glue with 15 pounds of zinc; for walls, one pound of glue with 15 pounds of zinc. The glue, before used should be soaked over night in water, and in the morning liquefied over the fire. Paris white is often made use of in preparing kalsomine, but it is not so satisfactory as zine The mixture may be colored to any desired tint by the addition of suitable pigments. The practical details of preparing and applying the mixture are given herewith from a very reliable source. In case the wall of a large room (say $16 \times 20$ feet square) is to be kalsomined with two coats, it will require about one-fourth pound of light colored glue and five or six pounds of Paris white (observe our remark above on the use of this material. Soak the glue over night in a suitable metal lic vessel with about a quart of warm water If the kalsomine is to be applied the nex day, add a pint more be applied the next glue and set the vessel clean water to the kettle of soiling vessel containing it in a tinue to stir the water over the fire, and conand quite thin glue until it is well dissolved and quite thin. The object of treating the glue in this way is to avoid scorching it Place the Paris white into a large water pail pour on hot water, and stir it until the mixmingle the glue liquid with the whiting, stir mingle the glue liquid with the whiting, stirring it until thoroughly incorporated, and apply it to the wall with a whitewash or large paint brush. The object to be accomplished is to lay the liquid on smoothly, and a good whitewash brush with long and thick hair will answer very well. In case the liquid is so thick that it will not flow well from the brush, add a little hot water until it makes smooth work. When applying it the mixture should be frequently stirred, and the brush should be inserted into it only so deep as to take up what the hair will retain without dropping off. If too much glue is used the kalsomine cannot be laid on smoothly, and will be liable to crack. The object should be to apply a thin layer of sizing that cannot be brushed off with a broom or dry cloth. A thin coat will not crack. In this connection the following recipe for a whitewash used by artment and said to of the Treasury Deand stone nearly as well as oil paint than which it is much cheaper may pe fint, than ful. Slake one-half bushel of unslaked usewith boiling water beeping it unslaked lime the process. Strain it and add a peck of salt issolved in water, three pou peck of salt ice boiled in water, three pounds of ground pound of Spanish whiting paste, one-hal elear glue dissolvel in w, and a pound of these ingredisons Mix the mixture to stand for several days. Keep the wash thus prepared in a kettle or portable furnace, and when used put it on as hot as furnace, and when used put it on as hot as
possible with a paint or whitewash brush. Coloring matters may be incorporated with Coloring matters may be incorporated with
these several mixtures, as may be required Spanish brown stirred in will make a pink or Spanish brown stirred in will make a pink or
red, more or less deep according to quantity red, more or less deep according to quantity. for inside walls. Finely gulves a pretty effect clay well mixed with Spanish brown common clay well mixed with Spanish brown, makes a red-stone color. Yellow ochre stirred in
makes a yellow wash, butchrome makes a yellow wash, but chrome goes further
and gives a better color.

Oye, Mrs. Costigan, but it breaks me poor heart to see the lovely stoof I kin buy at foive cents a yard now, and me payin' twelve cents a yard for two dresh patterns of bastly tariff removed. Sure, this fray thrade is a blessin' to the poome Mrs. Dinney. An' will yez be havin' new dresses this year, Mrs. Dinney "" "Well, ef Idu be tellin' yez I'm thinkin' not. Yez see, as how it is Moike is out of wurruck since the mills shut down, on account of what they do be callin' 'furrin importation.' But the goods is very cheap if one had the money

## steam boilers in bad places.

## by a mechanical engin eer.

A place for everything, in the words of the ancient adage, is always a good doctrine, but as to who shall say where the place shall be for this, that and the oth
Those who say that to put a steam boiler in a hole below the yard level of a shop premises is a good thing, merely because the coal can be dumped into the fire room a little more conveniently, say what would be very hard to be proved, when all the facts are taken into the account. The place for a boiler is where
it can be gotten at on all sides, on the top, it can be gotten at on all sides, on the top,
and the bottom too for that matter, as repairs and the bottom too for that matter, as repairs execute. If a boiler is put into a pit the chance is an even one, or, in fact,rather against the boiler,"that the pit will be a third or a half too small, that it will be imperfectly lighted, about one-half ventilated, and what is worse than all, lefts; without any pretence of convenient and sufficient drainage. The result is that the fireman stands on the edge or on the top of his coal pile while shoveling into the furnace, he must work half the time even in day-light hours, by the aid of a lamp of some kind, he is enveloped in clouds of dust when raking or cleaning fires, and is in a pool of mud and, water, when at the end of the week, f the boiler.- If to plan and execute this class of construction work in this way is to find in then the useful force of comparisons must be given up as wholly lost.
A very just measure of the right kind of setting or housing in of boilers, and all similar are afforded for the manager of the works to walk easily and conveniently around and over every part of the whole plant. If he can do some one else will be likely to do it also by way of preparation for his visit, and thus it may come to be regu

## hing is in its place.

fr cond ed city districts, and hence under sidewalk and in other places where, in steamship fash fices must be made, and the close efficiency of the whole can be kept up only at an expenditure of effort and muscular strength which is infortunate. Those who build boiler house in open neighborhoods, where land is to be spaces for boilers ase concerned, do a rea injustice to their men and an actual injury to their business when they proceed upon the
deep-pit, no-light, no-air, and no-drainage plan which some men appear so much to ad mire.-Industrial World

## THEY STOOD BY THE OLD MILL

Writing from Truman's Corners, Pa., pathetic story as follows:
Before railroads destroyed the usefulness of stage-coaches in Pennsylvania, this village was an important coaching station on the old pikes. In 1840 Cyrus Miller, Lewis Dorr, and John A. Merritt, settled here. Miller bought the tavern then here, and tearing it down erected a larger one. Lewis Dorr, being carpenter, did the work. Miller also put up a saw mill near by, and employed Merritt a his sawyer. Miller kept the tavern until two son, but continued to live in the tavern. He had never permitted any change to be made in its appearance, and it is to-day one of the few typical taverns of the old stage-coach days, although its business has for years been only such as the small local trade can give. Miller made a fortune from it, however, in its early days. His mill, although of late years having very little to do, he kept running every day from the time he turned water on, forty-four years ago, and it was, probably, the only oldfashioned upright saw-mill left in this part sawyer that ever manipulated its machinery, and he had grown gray listening to its clatter. Lewis Dorr, who built the old tavern and
the mill, boarded until Friday last at Miller's tavern, having occupied the same room for over forty years. On Monday of last week mill property against the wishes of his father, who was 75 years old, and whose one great wish it was to die in the house he had founded. The new proprietor was to have possession on March 1. Old Mr. Miller's health had been feeble for some time, and he took the matter of the sale of the property so much to heart that he was obliged to take to his bed, where he sank rapidly and died on the following Thursday night. On Friday forenoon his lifelong friend and companion, Lewis Dorr, was found lying on the edge of Truman's brook, under the turnpike bridge, dead, with his face buried in the water. Workmen had been lay-
ing a new floor on the bridge, and a narrow foot way of plank at one seald the only means by which pedestrians could cross. It is supposed that the old Mr. Dorr was cross-
ing the bridge on this plank, and losing his balance, had fallen into the creek below. He was nearly 80 years old, but very strong physically and mentally. He had never missed a day's work in
at the Corners.

At about ten o'clock on Saturday night the cry of flre was raised in the village, for the first time in its existence. A bright light in the direction of the mill hollow, drew the entire population thither. The old saw-mill was in
flames, and, as there was no means at hand flames, and, as there was no means at hand
with which to fight the fire, it was soon destroyed with its contents. Early on Sunday morning Sawyer Merritt called on George Hendershot, the man who had purchased the mill property a few days before. He told
Hendershot that the mill had cost Mr. Miller Hendershot that the mill had cost Mr. Miller
for ten years from $\$ 100$ to $\$ 200$ a year more to for ten years from $\$ 100$ to $\$ 200$ a year more to that there was no possible chance for it to do any better. There were $\$ 125$ worth of logs, and $\$ 200$ worth of other material burned up with the mill. The mill and machinery wer paid Billy Miller $\$ 700$ for the mill, and it wasn't insured. I have come to give you that

Hendershot expressed
asked for an explanation.
"I helped build that old mill," said Merritt, "and haven't missed a day's sawing in it from the first time I turned the water on the wheels, nearly forty-five years ago, and no other man
ever sawed a $\log$ in it. Billy Miller sold the property, and his father 's dead from it, and because his old friend died. All three of us came to this spot together, and I knew that in man running it, I wouldn't live a week. So set it on fire and burned it up, and I want t pay you for it." The old sa
the money and walked out.
The two old friends, Miller and Dorr were buried side by side on Sunday afternoon. On Monday William sent $\$ 700$ to John Merritt saying that he had himself refunded the pur hase money for the mill property to fende hot. Merritt re with his married daughter in Buffalo. He had never been away from the village since he came here, before

## BELTING.

Belting is rapidly taking the place of cogwheels. It is a better medium for transmitting power and distributing it throughout a and are more easily and cheaply repaired when breaks occur; besides the unpleasant noise mad.
A French writer on the subject of belts, as compared with toothed gearing, says: "In regard to the relative friction with belts or
cords, and with toothed gearing, it is that theoretically the advantage is always more or less on the side of belts or cords; while a practical confirmation of this conclusion which toothed gearing driving 18000 spindles was replaced by belts, with a saving of 20 per cent. in friction, or $3 \frac{1}{2}$ per cent. on the effectve driving power transmitted; and in no than toothed gearing."
In all manufacturing lines there is probably not one factor that performs more important duties than belting; and yet my experience teaches me that in general. nothing is so little understood.
A man will spend thousands of dollars to build a handsome factory; he will have both the exterior and the interior look well, and
shows it with admiration to his friends and the public. He will buy the best make of engines and the latest improved machinery and will see that everything is arranged to right and proper, and just as a sensible man ought to have his factory well fitted up and properly ordered-but when it comes to belt-
ing, without which in their present shape, all ing, without which in their present shape, al
his building and machinery would be useless he is parsimonious and tries to save and see how cheaply he can belt up the handsome factory he has erected. He gets his pulley too narrow, uses single doelts where, or at least light double, and get
use doul his belting from the party who gives him the width and length for the least money
Now, you can't get something for nothing The profits in belting are so small that no one than his neighbor, and yet furnish as good belt for $\$ 1$ as he can for $\$ 1.10$, for in the latter case the extra cost is
that goes into the belt.
Then after having purchased the belting they in many cases, take very little care of it They will see that the engine and all the ma-
chinery is kept nice and bright, and in good
order, but the belts are often put on in a care less manner, the ends cut at random instead ends are squared, it will make a crooked joint which will cause the belts to run crooked and often wun off the pulleys. Many run the flesh side next to pulley and with the ends of the laps pointing fey and instad of and seldom, if ever, clean and oil them. O course we are now speaking of belt users in
and seldom, if ever, clean and oil course we are now speaking of belt users in
general, but there are some who know how to general, but there are some who know, and also eep a record of each belt in the factory Never condemn a belt until the cause failure has been ascertained. In many case it will be found, either that the ends have
not been cut square, that it has been improp erly laced, or that it is not in proportion t the work required of it. In such cases it i
not fair to lay the blame on the belt. Th average tension at which belts should be run is claimed to be 55 poun
width of single belting.
As to the driving power of belting, there i great difference of opinion. To be brief, I
will say the size of the pulley has very little do with the driving power of the belt. It is the are of contact and the speed at which the belt travels that gives it its power. The power; thus you can, by increasing the spee of the belt in proportion, double and treble the in The Tradesman

## the pulley side of belts.

There are some questions in practical me chanics that never appear to receive a final and uthoritative solution under whatever tests side of a leather belt shall run on the pulley ace? In some establishments both ways are circumstances, so nearly uniform; the matte might be at last decided. But the foreman or uperintendent who prefers the flesh side to han those run by the other foreman in anoth than those run by the other foreman in anoth belts inside out." Of course prejudice has much to do in these cases, and probably preents a fair conclusion.
writer in a recent number of the Journal f Railway Appliances says: "I advocate unning the flesh side to the pulley, for the following reasons: Leather is fibrous and
curiously constructed as revealed under the microscope, in the form of a triangle, the tender part or grain, representing the top part of der part or grain, representing the top part of
the triangle, being very fine and delicate, whereas the flesh part, or bottom of the tri-
angle has a coarser and thicker fiber, and if it angle has a coarser and thicker fiber, and if it is properly skived will be just as smooth as the
grain, although a great deal tougher, and will, therefore, stand more wear and friction. If you will notice belts that haverungrain the pulley for any length of time, you wil find the grain cracked, and you wonder why,
It is because you have subjected the tenderest part of the hide to the hardest usage; the friction has burned the grain, the burning brittled and hardened it; you can never re the grain side being elastic, it will bind the coarser fibrous parts and keep them together. The principal proprietor of one of the oldest and most extensive manufactories of leather belting in the country recently declared himself as positively and unequivocally in favo of running the flesh side to the pulley, as the result of more than thirty years' observation and he offered among other reasons, the quain one that the belt run thus was in the natura position of the hide. Per contra, the superin machine tools are built, runs all his belt grain side to the pulley faces, claiming a much longer life to the belts and a closer conhowever, all the pulleys are of turned and finished iron.

And it is possible that all these disagree ments on this question may arise from the dif Woences in the materials of the pulley faces.
Wooden faced pulleys are coming into us four inches diameter, and leather-faced pul leys are very common. It is undeniable that there is a difference in the holding force of these diff
materials.

## NEW AUTOMATIC FIRE EXTINGUISHER.

## system of fire-extinguishing 'having se

 eral novel features and possessing much inter est for property owners and insurance men has lately attracted attention in the East. It onsists of a four-inch pipe placed below the in the and connected with the water-main ed as to check the flow of water into the pipe and thence throughout the building, till a fire occurs. Smaller pipes connecting with thi four-inch pipe run along the ceiling of each floor in parallel rows at a distance of a few feet of these smaller pipes "sprinkler-heads" are paced. These heads are provided with ahimble of solder which melts at $160^{\circ}$. From weight on the automatic valve runs a wire along each pipe. This wire is slacked opposite each sprinkler-head and retained so by rrangement being such that these plates melt a few seconds before the thimble on the sprinkler-head. When the heat in the apartment exceeds $160^{\circ}$ these plates melt, permiting the wire to straighten through the tension exerted by the weight of the valve, which at the same time acts to open the latter and admit a full head of water. By the time the current of water has reached the sprinklerheads the thimble has melted from the same, and jets of water are thrown from each with the full force of the pressure into the room. This system of extinguishers acts only at This system of extinguishers acts one
these sprinkler-heads when the temperature has reached $160^{\circ}$. The temperature at which the heads will melt and the water let in can be varied to suit the wishes of the propertybe varied to suit the wishes of the property-
owner. The spray of water from each sprin-kler-head is from 20 to 40 feet in diameter. kler-head is from to 40 feet in diameter. Dry pine, it is said, takes fire at about age could occur before the $160^{\circ}$ necessary to release the water was reached. When the valve is thrown open an alarm bell is sounded automatically. This system is being introduced by the New Haven Automatic Fire-
Extinguishing Company, 115 Broadway, New Exting
York.

## EATING AT NIGHT

Popularly it is thought injurious, but unless dinner or supper have been late, or the stomach disordered, it is harmless and beneficial having elapsed since the last meal, invalids and the delicate should always eat at bedFood This seems heretical, but it is not. mals after eating instinctively sleep. Human beings become drowsy after a full meal. Why: Because blood is solicited toward the stomach to supply the juices needed in digestion. Hence the brain reces less ing fasting, becomes pale, and the powers
become dormant. Sleep therefore ensues This is physiological. The sinking sensation in sleeplessness is a call for food. Wakeful Gratify the desire and you fall asleep. The writer recently was called at two $\mathrm{a} . \mathrm{m}$. to lady who assured him that she was dying.
The body was warm. the heart doing honest The body was warm. the heart doing honest
work. To her indignation he ordered buttered bread (hot milk or tea were better) to be eaten at once. Obeying, the moribund lady was soon surprised by a return of life and desire to sleep. The feeble will be stronge at dawn if they eat on going to bed. Four teen hours lie between supper and break fast By that time the fuel of the body has becom expended. Consequently the morning toile fatigues many. Let such eat at bed-time an take a glass of warm milk or beef tea befor rising. Increased vigor will result. "But the stomach must rest." True. Yet when hungry we should eat. Does the infant stomach rest as long as the adult's? The latter eat more time for main awake until half-past ten or eleven i the evening without hunger. Satisfy it and sleep will be sound. During the night give The sick should food. Sleep will follow. night. This is imperative. All night the delicate and children may take warm milk, beef tea or oat-meal gruel. Vigorous adults may also eat bread and milk, cold beef, mutton, chicken and bread, raw oysters, all of course, in moderation. Do not eat if not
hungry. Eat if you are.-A Boston Physician

Why He Put In Coal.-"We have many close shaves," said an old railroad engineer person will recollect something that was said r done which will cause him to laugh in spite of himself. I was once running a freight enine on the Allegheny Valley road. One warm night in summer just after a heavy rain, we were pounding along on wild-cat orders. The fog hung like a black cloud over thack, making it impossible to see twenty feet ahead of the locomotive. Suddenly a gust of wind lifted the fog, and not more than thirty feet ahead I saw the red glare of a
lantern and could trace the outline of a calantern and could trace the outline of a ca-
boose. I knew, although I could hear only the noise of my own train, that the one ahead was moving, but that we were gaining on it. I whistled for 'down brakes,' reversed the
lever, and jumped to the ground. As I was leaving the cab, I saw my fireman grab the shovel and begin to pile in coal. My locomotive caught the caboose and lifted it from the track, but stopped before serious damage

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## THE UNITED STATES MILLER

## international bills of Lading.

The introduction of measures concerning international bills of lading in the House of Representatives has awakened public attention in this subject, and may possibly tend to induce owners of steamship lines to do something for the relief of the merchants of this country, whose wishes have so long been disegarded. The subject has now been dising being held in England, and repeated ing being held in England, and repeate four years by underwriters, merchants and our years by underwiters, wiformity estab lished between the different countries of the globe. But, while they have shown the recese to limit thange, liability, and give as a refuse to limit their liability, and give as a
bill of lading a receipt which expressly says that out of the great majority of accidents that out of the great majority of accidents
that can happen to a cargo they will be rethat can happen to a cargo they will be re-
sponsible for scarcely none. They state that sponsible for scarcely none. They state that
they will not be held liablefor the "acts of they will not be held liablefor the "acts of
God," meaning by this lightning, storms, or shipwreck. They give no guarantee against cold, heat, mould, rats, mice, leakage, escape of steam, water, bad packing, fermentation, injury by being placed with other commodities. deviation in the course of the vessel,
protracted voyage, or for the acts of the master and his crew. The bill of lading, as the custom now exists between this country
and Great Britain, is a receipt saying that the steamship company has on board the ship the goods mentioned, but which assumes no further liability. It does not conceive that
it is bound to make a loss good, even when it is bound to make a loss good, even when
happening through the negligence of its own servants.
It is this state of things which the bill, prepared by the Chamber of Commerce and
introduced into the House of Representatives by Mr. Darwin R. James, seeks to rectify In the ordinary intercourse of life, when a dealer delivers a barrel of sugar or a hundred bushels of wheat to a neighbor, he takes a
receipt, and the receiver is obliged to make good any loss which may occur. The carriers of the sea do not, however, assume this liability. They take the goods at owner's risk. It is not to be wondered at that they should ask a release from damages in cases where away, but this exemption should not extend to faults which were clearly those of the master, the agent or the crew. Rats are ex would be perfectly practicable to lessen their numbers on a single ship to so great a degree that the damage they could do would scarcel be appreciable. The companies decline to
pay for damages caused by improper storage pay or damages caused by improper storage, them to have this done in a way that no harm could follow. If turpentine is near wheat and the barrels leak, the ship does not pay for the loss, although the two ought not to be proximity to each other. Everywhere and in every way the ship owners limit their re sponsibility, and it is to cause them to give as any other custodian might be required to
do, a full and binding receipt, except in a do, a full and binding receipt, except in a few well-known cases, that the shippers of
grain, provisions, cotton and other commodities ask for interference by Congress.
It is, however, true, as pointed out by Mr Gustav Schwab, in his testimony before the committee, that legislative interference is to be deprecated. He does not dispute the ne-
cessity for a revision of these customs, but cessity for a revision of these customs, but
thinks they had better be left to the agreethinks they had better be left to the agree-
ments of the merchants, than be imposed upon them by statute. "We admit," said he, "that many forms of bills of lading now in use leave the shipper largely at the mercy of
the ship-owner or the underwriter, and that the ship-owner or the underwriter, and that
it is practically impossible for him to cover it is practically impossible for him to cover himself or to be sure that he is covered
against risks that he is justly unwilling to assume. All this, and more than this, we fully concede, and some of us have been trying our best to bring about the reform which the originators of this bill have in
view. What we differ in is how to do it. We believe it to be a much safer plan to delay statutory legislation until the parties interested in this matter, through the commercial bodies representing them or otherwise, have arrived at an understanding between themselves, and until such an understanding has crystallized into an accepted custom. The common law itself is nothing else but a collection of accepted practices, first sanctioned by custom and then upheld by the courts. Statutory legislation is apt to bear the impress of the party to the question that seeks to obtain it, and in a delicate matter of this kind a satisfactory improvement cannot be kind a satisfactory improve
These are wise words, and should be heeded by the House Committee on Commerce, to which inas These are also, duce Exchange, as evidenced by the remomade yesterday. We have no doübt that in
time the difficulty will be solved, and the merchants and ship-owners be able to agree on a common form which will protect both and do justice to bo
Provisions Journal.

## use of chilled rolls in low milling.

The extraordinary success which was at tained in high milling by the use of chilled rolls led milling engineers to the construction of roller mills which could be used for low
milling, for which only stones have hitherto miling, for which only stones have hitherto
been employed. At the present time, roller been employed. At the present time, roller
mills for low milling are in sucessful operation at many places, and prove of great ad vantage, as they require much less power for
the same quantity of flour produced than the same quantity of flour produced than
stone mills. The quality of the flour ground stone mills. The quality of the flour ground
in low roller mills is also superior to that in low roller mills is als.
obtained between stones.
Rolls were generally used, at first, in high milling; rolls with smooth surface for sizing corrugated rolls for breaking, and smooth rolls with great pressure for final reduction. Within about four years these rolls have been also used in low milling.
The material of the rolls must answer two equirements-for sizing and for final reduc tion of the middlings and dust. The sur-
face of the rolls should be as dense and free face of the rolls should be as dense and free from cavities as possible, for otherwise it
would be impossible to act upon every paricle of the material during the short distance through which it passes. Some of the par-
ticles would enter the cavities and pass beticles would enter the cavities and pass be tween the rolls without being acted upon, may be susceptible to the action of proper tools, and at the same time sufficiently hard to render the cutting-edge as durable aspossiimportant requirements in the highest degree. Chilled iron is a variety of cast-iron, having
a surface as hard as glass. When molten cast-iron is poured into a mold of good conducting materials, such as iron, steel, etc lof the faces of the casting which were
direct contact with the mold will form an exceedingly hard, white layer. This is produced by the rapid cooling, which does not give the carbon contained in the iron suffiient time to separate as graphite, but keep it in chemical combination. The interior o contact with portions of the mold, made of poorly conducting material, will assume a deep gray color and the softness of ordinary cast-
g.

The chilled rolls which are to be used in They are consequently hardened throughout heir surface. $\qquad$ Toward the interior they bored. In theory the making of a chilled roll appears to be a very simple matter, but in practice it is not so, for the manufacture of a good and useful chilled casting is dependent upon the chemical composition of the molds and numerous other conditions. of the molds and numerous other conditions.
Good chilled rolls have an excellent uniform hardness, and to this is due their advantage over the rolls made from any other material. They are also of extraordinary
durability and solidity, and are very well dapted for milling purposes. One of the most favorable results for the chilled rolls, as compared with stones, is a surprisingly minute amount of wear, which in smooth chilled rolls may be considered equal to zero.
Even in the case of corrugated rolls, sharpen ng only case of corrugated rons, sharpen everal years.-Translated from the German for the Miller's Journal.

## favorable to millstones.

## Dillsborough, Indiana, corre

## ites us as follow

I have heard of and read about the roller system of milling and its superiority over
milling with millstones that I feel like taking xceptions, especially when some of the roller mill agents come in and talk as if there was never any flour made on millstones that was fit to be eaten. Now I desire to say in behalf
of millstones, that I am making flour on millof millstones, that I am making flour on millsones that will stand the test with that made on the best roller mills in the country, and they have the advantage also in the matter of
more thorough wheat cleaning and middlings more thorough wheat cleaning and middlings purifying machinery for the same amount of work. The trouble has been that millstones have not been handled properly. I am fully satisfied from what I know that as good work can be done with stones and that with less machinery and capital invested. Still I will say, that for cleaning bran and crushing germ middlings I think the rolls are excellent."

Burrstone Miller.

## NONSENSE. <br> "A little nonsense now and the <br> A pobieeman leaned over the area-railing, and addressing Bridget, who was at that observed: "Bridget, my darlint, the loight

av yer oyes makes the dawn same loike darkness." "Thim's the very wurruds that yer sapayrior, the Sargint, spoke to me. I sup-
poaz it's a part of the discipline of the fource.'
"I'd hate to be in your shoes," said bor. "You couldn't get into them," sarcas tically replied the neighbor.
A Vermont farmer wanted to get a couple shingles tacked over a leaky place in the oof, but no one dared to try it, the roof was $o$ steep. That very day the farmer's daugh-
er came home from boarding-school and di the job before she sat down to supper. She was the was the only

Mother, is it right for a person to try to nake a person believe something what he
doesn't believe?" "No, son." "Well, then why do you try to make me believe it's right when any one rings the door-bell to go and
peep ort the winder and see who it is, and if peep ort the winder and see who it is, and if
it's sich and sich a one to tell her you're not "Well, that's a different thing." "Oh es; you always say 'that's a different thing

B
Bridget was sent to the door. On the aid, "Well, Bridget, who was it?" Bridget replied, with all the unsuspecting sincerity
of her race, " It was a gentleman, sir, looking for the wrong house.
An agent who had sold a Dutchman some oods was to deliver them at his residence The German gave him the following direc-
tions: "You shoost goes behint de church; den you turns up for a vile till you come to
von house mit a big hog in der yard. Dot's
$\qquad$
neal, in spite of his mother's urgings that it as a strengthening diet, suddenly surprised and calling for more. Upon his mother asking for an explanation, he replied: "I am to whip Johnny Scott."
A shrewd countryman was in New York he other day, gawky, uncouth and innocent ye-teeth cut. Passing up Chatham street h was continually encountered with importunities to buy. From almost every store some
one rushed out, in accordance with the annoying custom of that street, to seize upon
and try to force him to purchase. At last one dirty-looking fellow caught him by the arm, and clamorously urged him to become

Have you any shirts?" inquired the counyman, with a very innocent look.
A splendid assortment, sir; step in, sir ; every price, sir, an

## Are they clean?" Step in, sir." To be sure, sir.

"Then," resumed the countryman, with perfe
it."
The rage of the shop keeper may be imagned as the countryman, turning upon his heel, quietly pursued his way.
A Kansas mule standing near a magazine of giant powder when it exploded was hurled end over end seventy-five feet to the bottom
of the dump on which he stood. When the smoke cleared away he stood quietly picking the bunch grass, not in the least disturbed He had lifted people like that himself, and knew how it was done.
" 1 was flaxseed that ruined me," he said, as he crossed his legs and heaved a sigh from the bottom of his soul.

You tried to make a corner, eh?
Oh, no. I was simply calculating on the states.'

And did the price go down?"
Yes, 15 cents per bushe
"What was the cause?"
Almost total lack of boils in the States of Ohio, Indiana, Michigan and Illinois, that of boils dropped from 750,000 to three or four old carbuncles and a felon or two, and I'll be old carbuncles and a felon or't poulticed with cormeal to save expense."- Wall Street News. Geir Fows - a pitman, who had bees Great Folks.-A pitman, who had from Durham, on his way home heard of the death of a friend, and remarked to his wife-"Ey, lass, he's gyen, an' by this time he's syafe in Beelzebubs bosom." "Jack, hinny," re
sponded the wife, "hesn't thoo made a mis"pel dissent thoo mean Abraham's bosom?" "Why, mebbes aa de," responded Jack, "but thoo knaas aa nivvor read the pyapors, and thoo knaas aall them greet foaks!
A young Virginia lad of three summers,
after having feasted on rich fruit-cake from New Year's table, was warned to touch no fellow, pleading hard for just another slice,
dropped his hand to his side, and for a moing from lis veverie he said :" Mamma jus bive $n$, give me another slice and then send for the

OLd lady to professional street Arab: "Do you go to Sunday-school, little boy ?" " Naa," Are you a Protestant ?" "Naa." A Catho-
ic ?" "Naa." " What are you then ?" "Mer-

Mary Ellen Chase says there will be three women to one man in heaven. We
know who the man is likely to be, but for the now who the man is likely to be, but for the
ife of us we can't place the three women.Peoria Transcript.
A close observer tells us that when you see a man operating with a needle and thread a trouser button you can easily tell
whether he is single or married. If he uses thimble he is married, but if he pushes the end of the needle against the wall and pulls through the button with his teeth, you may safely bet that he is single.
A TESTY old man went into the cellar, with a handsome mug, to draw some cider. He
stumbled, fell heavily over a box, and hurt himself badly. His wife, more anxious for the handsome mug than for him, called out:
My dear, have you broken the mug? "No; but I will!" and immediately dashed t against the wall.
Class in History-Teacher: "Who was
the first man ?" First Boy: "George WashingAdam." First Boy (indignantly) :" I didn't know you meant foreigners.

A LITtLE girl in townwas trying to tell her trill in singing antifully a certain lady could you ought to hear her gargle, she does it so sweetly."
"You have asked to see me ?" said an emwanted ?" "I wish to make a claim, which I doubt not your sense of justice will accept." Very well, what is it?" "I do the same work as $Z$, and I am paid five dollars a month perfectly right. I will at once reduce $Z$ 's salary five dollars
"Did you see that sign, mister, coming up it was stationary-it didn't seem to be comit was stationary-it didn't seem to be com-
ing up the lane." "Smart, haint ye? Well, what did that sign say ?" " Nothing that heard; it was perfectly dumb when I passed it." "Hum ! Gittin' cuter all the time, been't sign. Try again! What did yer read on that sign? ". Read on it? Why, 'beware of the
dog." "Yes, but ye haint bewarin' much be ye?" "Well, my friend, I didn't know I'd encounter
ers Guzette.
His Faith in Liquor.-"I am never so drunk," said a nervous little man with I'm drunk," said a nervous little man with fierce
whiskers and a limp. He brushed the crumbs whiskers and a limp. He brushed the crumbs of a free lunch off is shirt bosom anst the bar in an easy attitude.
up agat
"Last week," resumed the little man, snapping his eyelids together reflectively, "I spen three days in getting fuller'n a goat, and I got that way. I had made up my mind to do
it. By that time I had distributed about $\$ 300$ buying drinks in fifty different saloons and I did'nt have a cent left. Now I live in Evanston," said the little man, glaring around him sternly, "and I wanted to go home and get some more money to buy more drink with. I saw that I had written on one of my cuffs: ' Deposited $\$ 30$,' but where I had de posited it I had not the slightest idea. I go northwestem passenger train, and told the conductor just how I was fixed. He had probably been drunk himself, for he said might ride home with him for nothing went to sleep in the seat. When I woke up I was half sober, and was in Milwaukee. I explained to the conductor that I was further away from home than ever. He put me on again. Next time I woke up I was sober, and was in Chicago. I felt like a total wreck. I struck the first stranger I met for fifty cents to buy a drink. He gave it to me without a word. I went into a saloon whoch I called for a whiskey sour. I laid my fifty cents on the bar.

Never mind,' said the barkeeper, 'I'll take it out of the $\$ 30$ you left with me the ther day.' Then he took an envelope out of the drawer and handed it to me. It had my money in it. I was so pleased with my luck hat I got drunk on it, and before night I idn't have a nickel. When I got sober, next day, I was in Evanston, but I don't know yet

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## that queen.

The Judge was a Christian and played on the square But he figured the cards pretty close;
He could cull off your hand every time He could call off your hand every time to
And lay down a "full" when he chose.
The Colonel could play a more difflult $g$ Idon't mean to say he would cheat, But he held he top card when the bight

## Coming ho meet-

They were very old friends-on the cars;
And as serither the other at poker could beat,
They played euchre, five points, for cigars.
The cards ran along pretty evenly, too,
Till the Judge turned a moment his head, When the Colonel, in shuffling, slipped the dect
through through,
And the Jui
Twas euchre, of course, but the Judge When he lifted four kings in a lump; But the Colonel, not see ming a particle
Turned up a red queen for a trump.
You say, do you pass, Judge?" the C " Look
ve mighty y said the limb of the law. We'll play this one hand out at draw."
The Colonel considered, and wriggled his neek-
" I , too, have a very odd hand;
If you'll kive mo that queen from the top of the deck,
We'll play out the cards as they stand."
-
Theed, solonel had one of two things--
The Col
full, or four queens, and ho hadn't a o
To rake down the pot from four kings
The Judge chipped with fifty; the Colonel
The Junge naswered him with a raise;
of the bets the two made I could never
of the bets the two made I oould naver get track,
But they piled up, ilike gals in a chaise. At last says the Judge, "Here,
Four kings reant inunting no more Hold on,
four,
four,
And they're four little aces I've got."
The Judge took the cards and Jooked over them well, Fetched a breath from his trousers' waistbas
Weell, what Id like to know is, what in $\mathrm{h}-11$ The queen had to do with that hand.'

## WHEAT-GROWING IN INDIA.

A second or supplementary report on the cultivation of wheat has been made by the Government of India in response to further
inquiries of the Home Government touching inquiries of the Home Government touching the area of wheat culture, the nature of the
soils, irrigation, growth per acre, cost per bushel, etc. The answers to these inquiries are taken from reports made by the local governments which have made special investigations for the purpose.
It appears, from the best information at tainable, that the area under wheat cultivation in British India is about $20,000,000$ acres, yielding between $175,000,000$ and $200,600,000$ bushels, and in the native provinces $6,000,000$ acres, yielding about $68,000,000$ bushels. The bushels yield is, theretore, there are, of course, wide differences in the yield, depending upon fertility, carefulness of cultivation, rainfall, etc. The quantity available for ex"in a good year." But a good year is defined to be one in which the yield is up to the average, and in which the price is satisfactory. If wheat brings a good price, the cultivator will sell it and live on millet and other will sell it and live on millet and other
cheaper kinds of food. If the price in the British market is unsatisfactory, India will consume her own crop, whether the will consume her own crop, whether the
quantity be great or small. At 43 shil quantity be great or small. At 43 shil-
lings per quarter the whole surplus of India
would be exported. At the present price ( 39 shillings for English wheat and 33 to 36 shil lings for Indian), there is no profit to the ex lings for Indian), there is no proft to the ex-
porter. The cost of producing wheat in Inporter. The cost of producing wheat
dia is not easy to ascertain, since the living dia is not easy to ascertain, since the living
of the cultivator and his family has to be taken into account, and this is a widely vary ing amount, and most difficult to reduce to terms of money. The closest calculation that can be made shows the cost in Northern In-
dia to be 1 shilling 6 pence per bushel, or 12 shillings per quarter, inclusive of land rent, which stands in the place of government taxes. This is the cost from the seeding to the threshing, and embraces no charge fo moving the wheat any distance whatever.
Twelve shillings per quarter is equal to 3 cents per bushel. This being the supposed cost of production to the cultivator, it is im portant to know what profit the Indian ryot can obtain from an acre of ground. This depends upon the selling price at the nearest interior distributing point, which was, at the time of making the report, 18 shillings 6 pence per quarter, or, say 56 cents per bushel

The pront to the cultivator would be from $\$ 1$ to $\$ 2.50$ per acre, according to yield. But the price has fallen since the report wa made as much as 10 cents per bushel, so tha the profit is reduced as much as $\$ 1$ per acre The exportation to Europe has been checked The receipts of Indian wheat in England in the month of March, 1884, fell off 20 per cent as compared with March, 1883. From America, taking Atlantic and Pacific ports to getther, they declined in about the same ratio,
the March imports reported by the British Board of Trade being as follows:

## From India, ewts

 1883.45,4 America, Atlantic

America, Paciflc. | 445,41 |
| :--- |
| $1,055,75$ |
| $1,221,50$ | $\begin{array}{r}1884 . \\ 754,518 \\ 712,707 \\ \hline\end{array}$

The conclusion to be derived from the reort is, that no encouragement is offered to the production of wheat in India for export, at the present prices in the European markets. Sir James Cairds adds another fact of the highest importance, obtained by his own observations, viz.: that the population of In-
dia is increasing so rapidly that she will, dia is increasing so rapidly that she wirl crop and have no surplus for export. This is not altogether a surprising statement when we remember that the existing population of the country exceeds $200,000,000$, and that, as the prosperity of the people advances, not only does the population increase, but a better quality of food is demanded. A very moderate addition to the material wealth of the country would lead to a much larger consumption of wheat at home, and an existing surplus of $60,000,000$ bushels might be very readily disposed of among so vast a population,withoutany actual increase of their numbers. This solution of the problem of Indian competition with American wheat was pointed out by the Evening Post some months ago, but we did not anticipate that it would become effective within so short a time as Sir James Caird predicts
The testimony of sir James Caird (which was given before a Parliamentary Committee on Indian Railways), confirms the inference drawn from the government report on wheat culture, that the extension of wheat upon the price which can be obtained for it, and that at present prices there will be no extension and no considerable exportation. In short, the opinion of the first authority tends to belittle rather than to magnify the wheat exporting capabilities of India. The wheat exporting capabilities of India. The
unusual exportation of the past season was in his opinion, due to two exceptional harvests following after a year of famine. He looked upon South Australia as a more promising source of regular supplies for the United Kingdom than India. American wheat was better than Indian, and would wheat was better than Indian, and would
command a higher price, but if wheat could be produced in India at 12 shillings per quarter, it would find a large sale in European ter, it wo
markets.
The conclusion to be drawn from these in estigations is, that the present low price of Weat is due rather to the good crops of Western Europe, including that of England in 1883, than to those of India; that the capa bilities of the latter country have been exag gerated, and that if America is to have a for
midable rival in wheat-growing, it will be midable rival in wheat-growing, it will be
found in Russia, Australia, or the Argentine found in Russia, Australia, or the Argentine
Republic, rather than in India.-N. Y. Evening Post

Malt or Dust Explosions.-Her Baehr, Lightning Inspector of Dresden, contributes ome notes on the above subject to the Nord deutsche Brauer Zietung, which, in view of the recent explosion of malt dust at Bass' brew-
ery, will perhaps be of more interest to our ery, will perhaps be of more interest to our
readers. The writer states that the leather readers. The writer states that the leather
mill bainds are known to be a source of elecmill bands are known to be a source of elec-
tricity, and from experiments he has lately tricity, and from experiments he has lately
conducted with the belts used for producing conducted with the belts used for producing
the power for the electric lighting of the Royal The power for the electric lighting of the Roya
Theatre at Dresden, he is convinced that the Theatre at Dresden, he is convinced that the
electricity produced by these belts may now electricity produced by these belts may now and then be the cause of the spontaneous fir-
ing of malt or flour đust, because in almost very case the electricity is absorbed in the various parts of the machinery. He recom mends that care should be taken to see that no metal part is connected with the driving belt, if there are dangerous materials near such as malt or flour dust.

## NEWS

Letters dated April 24, report that
Mg in Milparinka district, Australia.
Muirhead, Gray \& Gartley, oatmeal millers,
London, Ont,, have been burned out-partly insure J. E. Hardeman \& Son., Fair Play, Ga., have or The Cos irs Co. Cor The Case Mfg. Co., Columbus, Ohio, have lately fur-
nished Cliek \& Miller, Dayton, $O$., with rolls and puri ders. his mill on the "Case" system, with satisfactory esults.
Thos. Bradford \& Co., Cincinnati, Ohio, have order Mfg. Co.
A stock company is being organized at Brandon Manitoba, for the purpose of erecting a flour-mill and levator.
The Case Mfg. Co., Columbus, Ohio, have an order
rom Feldman \& Holdefer, Kahoka, Mo., for rolls, purifiers, ete.
Parkin \& Co., Hellerville, Ill., are putting in a No.
single purifler, furnished by the single purifier.
Columbus, Ohio.
The Case Mfg.
rom Henry Re
double puriffer.
Crow \& Williams, Oakland City, Ind., are putting in
No. 1 single purifler, furnished by the Case Mfg. Co., Columbus,
J. W. Cleaver, Caro, Mich., has ordered two pairs of
rolls with patent automatic rolls with patent
Co., Columbus, O .
A receiver has been appointed to take charge of
the business of Endslow \& Heabler, millers, Washington, 0 .
The Columbia Mill, at Cleveland, O ., was damaged
by fire to the extent of $\$ 2 \pi, 000$, May 6 . There was an insurance of $\$ 10,000$.
Fairbanks \& Lowing, operating a saw and grist-
mill at Fillmore Centre, Mich., recently suffered a loss by fire of 85,000 .
The Case Mfg. Co., Columbus, Ohio, have an order
from D. Lowrie \& Son, Rochester Depot Ohio for No. 2 single purifler.
The Case Mfg. Co., Columbus, Ohio, have an order
from I. S. Calkins, Elk Creek, Wis., for one "Little Giant" break machine.
The Case Mfg. Co., Columbus, o., are furnishing
A. Comingo, Pleasant Hill, Mo., with breaks, rolls, A. Comingo, Pleassant
B. E. Hickok \& Co., millers, of Oakland, Cal., have
dissolved partnership, and the style is changed to Hickok, Schreeder \& Co
The Case Mfg. Co., Columbus, O., have an order
from J, C. Scharman, Rock Mills, Ala., for breaks,
rolls, purifiers, scalpers, etc.
The Case Mfg . Co., Columbus, O ., have lately ship-
The Case Mfg. Co., Columbus, O., have lately ship-
ped Morland, Hull \& Co., Dublin, Mo., three pairs of
rolls with patent atomatic feed,
olls with patent automatic feed.
The Case Mfg. Co., Columbus, Ohio, have an order
through their agents, W. E. Catlin \& Co., Chicago, fo
through their agents, W. E. Catlin s.
one "Little Giant" break machine.
The Case Mfg. Co., Columbus, O., are furnishing ers, scalpers, centrifugal reels, et
W. C. Murphy was caught in the machinery of the
evator of H. L. Spencer \& Co., at Oskaloosa

The Case Mfg. Co., Columbus, Ohio, have just re or one 8-foot Improved Centrifugal Reel.
Crissman \& Burdell, Denver, Col., have lately or ne centrifugal reel and other machinery
The Case Mfg. Co., Columbus, Ohio, have lately re-
ceived an order from John Cooper, Cochran's Mill, ceived an order from John Cooper, Coch
Pa., for breaks, rolls and centrifugal reels.
The Case Mfy. Co., Columbus, O., have lately re eived an additional order from Thos. Rols.
on, Rochdale, England, for five sets of rolls.
Messrs. Walker \& Saunders, of Richmond, Va., pro
prietors of the City Mills, have recently sold out to
C. E. Buek, who will continue the business.

The Case Mfg. Co., Columbus, O., have an order
from the Sac City Roller Mill Co., Sac City, Iowa, for ne pair of rolls with patent automatic feed.
The Williams \& Orton Mfg. Co., Sterling, Ill., hav
ordered three pairs of rolls from the Case Mfg. ordered three pairs of rolls from the Case Mrg.
columbus, O., to be shipped to Kansas City, Mo
The Case Mfg. Co, Columbus, O., are furnishing
Hales \& Ault, Elizabeth, Pa., with a line of breals Hales \& Ault, Elizabeth, Pa., with a line of b
rolls, puriflers, scalpers, centrifugal reels, etc.
The Case Mfg. Co., Columbus, o., have lately shipped W. P. Hambaugh, Ringgold, Tenn., two addi-
ional pairs of rolls with patent automatic feed. The Case Mfg. Co., Columbus, Ohio, have lately had
n order from P. E. Keron, Pigeon Falls, Wis., for an order
one paten
Purifter.
The Case Mfg. Co., Columbus, Ohio, have lately
shipped two pairs of rolls, with patent automatic feed
to the W. P. Huffman Implement Co., Fort Worth,
Texas.
The Case Mfg. Co., Columbus, O., have lately fu Giant" break machine and sealper making three sep-
Eli Atherholt, Brookfleld, Pa., is making some
changes in his mill, and has ordered two pairs of rolls
$\qquad$
The Case Mfg. Co., Columbus, O., have an order
rom J. M. \& H. C. Allen, Grafton, Ill., for one addirom J. M. \& H. C. Allen, Grafton, Ill., for one addi-
tional No. 1 double purifler, to replace one of another

The Case Mfg. Co., Columbus, O., have been award-
d the contract of B. S. Edwards \& Co., Chetopa,
Kan., for a full line of breaks, rolls, puriflers, scalp-
"Case" system.
Dr. J. H. McGrew, of Shelbyville, Tenn., is remod-
eling his mill to the roller system, with machinery and plans furnished by Nordyke \& Marmon Co Indianapolis, Ind.
Henry Schnur, Mt. Vernon, Ind., is putting in a
three-roller break machine and a scalping reel making three separations, furnished by the Case Mfg. Co., Columbus, 0 .
D. R. Raymond, Osceola, la., has placed an order for
a complete milling outtit, including ten pairs Allis rolls, in Gray's Noiseless Belt Frames, to go to

The Cummer Engine Co. have just shipped an 89 horse-power engine to Wright \& Baker, Minneapolis, Minn., and one of 414 h
ber Co., Oshkosh, Wis.
The Richmond Mfg. Co., of Lockport, N. Y., had a large chimney blown down in a wind storm a few
days since, its boiler-house roof being crushed in by aays since, its boller-house
W. Roop, of Tazewell, Tenn., is putting up a ty, and the machinery was made by Nordyke \& Mar mon Co., of Indianapolis, Ind.
An improved millstone flouring outnt was non Co., of Indianapolis, Ind., to Don Francisco Carbonaire, of Las Curcas, Mexico.
L. $\mathbf{S}$. Brott \& Bro., of Mayffeld, $\mathbf{O}$., are building a 00-barrel roller mill, driven by steam, and their entire \& Marmon Co., of Indianapolis, Ind.
Messrs. J. M. Boyd \& Son, Hillsboro, Ohio, have
contracted with Messrs. Allis \& Co. for the entire
outfit for their new mill, ineluding fourteen pain

Reynolds' Corliss engine,
will have a very good mill.
The Great Western Mfg. Co., Leavenworth, Kan., have ordered six pairs of rolls with patent automatic eed, to be shipped to W. L. Parsons, Neosho Fall. Jonas Fender \& Bro, Millersburg, ill, Jonas Fender \& Bro., Millersburg, Ill., have con hacted with Messrs. Allis \& Co. Yor a four break ma
chine, four pairs Allis rolls, in Gray's Noiseless Belt chine, four pairs Allis rolls, in Gray's Nois.
Frames, and complete outfit for their mill.
Planter \& McCullough, Walnut Kan., are putting one "Little Giant" break machine and scalper rnished, and one Improved Case Centrifugal Reel, Messrs. Darrah Bros. \& Co., Big Rapids, Mich., are
Metting in a complete roller outfit, and will use twelve putting in a complete roller outit, and will use twelve
pairs Allis rolls, in Gray's Noiseless Belt Frames ess a dis Co are furnibing the eomplete A flouring-mill stock company has been organized
it Necedah, Wis., for the purpose of rebuilding the Necedah, Wis., for the purpose of rebuilding
Model Mill. The officers are, E. S. Miner, president The manufacturers of mill machinery are having quite a boom in business at present. Nordyke d
Marmon Co., of Indianapolis, Ind., with a force of
400 men, started upon their usual night run April 15 . 400 men, started upon their usual night run April 15 . The Case Mfy. Co., Columbus, Ohio, have recently
shipped J. K. Mullen \& Co., Denver, Col., two No. 1 Double Puritters. This makes ten Double "Case" Purifle
mill.
The foreign trade of Nordyke \& Marmon Co., of ndianapolis, Ind., was increased last month by an
order from Yedro Enquicia, successor of Hacienda order f
de la Pa
outtit.
A. F. Ordway \& Son, Beaver Dam, Wis, have lately ordered one "Little Giant" break machine and
scalper and one pair of rolls with patent automatic calper and one pair of rolls with patent automatic
feed, from the Case Mfg. Co., Columbus, to be shipMessrs. Geo. Crossley \& Son, of Princeton, Ill., have
contracted with Messrs. Allis \& Co., for a No. 2 four-
break reduction machine, a Gray's noiseless belt oller mill, and machinery to equip his mill on the Geo. V. Hecker \& Co., New York City, eighteen
airs porcelain rolls in Gray's noiseless belt frames pairs porcelain rolls in Gray's noiseless belt frames.
This frm have experimented with all the different
kinds of rolls and have finally decided in favor of the porcelain rolls. Messrs. LeGrand, Quarry Co., Quarry, Iowa, have
contracted with Messrs. Allis \& Co. for the outfit ecessary to remodel their mill to the roller system, ess welt frames.
Messrs. McAffrey \& Co., Augusta, Wis., have contracted with Messrs. Allis $\&$ Co. for a No. 2 four-break
reduction machine, four pairs Allis rolls in Gray's
noiseless belt frames, and machinery to remodel the nill to the roller system.
Messrs. Johnson \& Denton, Elm Mills, Kas., visited Milwaukee recently and placed an order with Allis \&
Co. for a complete outfit for their mill, including a o. for a complete outitit for their mill, including a
our-break reduction machine and four pairs of Allis rolls in Gray's noiseless belt frames. The introduced into the 28,000 gallons daily capacity distillery of the Enterprise Distillery Co., of Pekin,
IIl., by Nordyke \& Marmon Co., of Indianapolis, who make
The Cummer Engine Co. have just shipped one o Albert Ziegele \& Co., Buffalo, N. Y., and expect to arge to ship three more of these machines, of
H. O. Hambaugh, New Providence, Tenn., has con-
cluded not to be behind the times, and has placed his cluded not to be behind the times, and has placed his
order with the Case Mfg. Co., Columbus, O. for a
complete outfit of breaks, rolls, purifiers, scalping complete outfit of breaks, rolls, purifiers, scalping
reels, centrifugals, ete., for a full gradual reduction mill, on the Case system.
E. F. Butler, of Woodbine, Ia., who was in charg machinery, had a silk handkerchief which encircled his neck,caught between a belt and a wheel, dragging
him and strangling him to death. Mr. Butler was him and strangling him to death. N
highly respected, and leaves a family.
Negotiations are in progress that may result in the erection of a 1,000 -barrel steam mill in Toledo, 0 .,
during the present year. Parties have been there during the present year. Parties have been there
looking over the ground. Toledo's advantages as a wheat market are great. There is always an abun-
dance of wheat in store, and the miller can easily

The Case Mfg. Co., Columbus, Ohio, have lately been awarded the contract of W. A. \& R. P. Crowdèr,
Hopewell Springs, Tenn., for a complete outfit of Hopewell springs, Tenn., for a complete outfit of
breaks, rolls, puriflers, centrifugals, scalpers, ete. Nine pairs of rolls in connection with the three-rolle
break machine will be used in connection with the The Kauffman Milling Co., of St. Louis, have closed
contract with Messrs. Allis \& Co. to increase the
capacity of the "President Mills," at Bethalto, Ill., capacity of the "President Mills," at Bethalto, Ill.,
from 750 bbls. to 1100 bbls. daily capacity. This mill was built last year by Messrs. Allis \& Co., and has
done so well that they will make the present increase capacity
The importance of the vibratory feed on rolle and puriflers is illustrated from the fact that the Case
Mfg. Co., Columbus, o., have five sets of rolls, both single and double, of other well-known manufactur-
ers, in their shop, upon which they are placing their ers, in their shop, upon which they are placing their
patent automatic feed the purchaser of the rolls patent automatic feed the purchaser of the rolls
paying freight both ways, besides paying the Case
Company a good price for placing their valuable attachments on them.
The Case Mfg. Co., Columbus, O., have been award
the contract of Moses Hartman, Sacramento, Pa ed the contract of Moses Hartman, Sacramento, Pa.,
for a complete outfit of breaks, rolls, purifiers, sealpers, centrifugal reels, ete., for a full gradual reduc-
tion mill, on the "Case" system. Ten sets of rolls tion mill, on the "Case" system. Ten sets of rolls
will be used in connection with the "Case" threeroll break machine, which will be used
second break, puriflers, centrifugals, ete.
Among those who are adding the late improve-
ments to their mills, may be mentioned: Quante $\&$
Bro., Metropolis, Ill.; © O. Furnas, Edinburgh, Ind,
E. M. Beach, Osborne, Kan.; J. B. Mills, Camargo,
III; Rabbeth \& Brownell, Hopkinsville, Ky.; J. M.

Bellefontaine, O.: D. Gratz, Montpelier, O.; J. M.
Diehl's Sons, Seribner, Neb: A. C. Burnett, Maquon, Ill. : W. H. Singer, Neogo, IIl. All purchasing their outflts of Nordyke \& Marmon Co., of Indianapolis,
Ind. Ind.
J. A. Nogle's Roller Mill, at Lodi, O ., was destroye
by fre by fre some time ago. Mr. Nogle has purchased
new site and will line of breaks, rolls, puriffera, scalipers, etco., fur nished by the Case Mfg. Co., Columbus, O . He had been running a line of machinery from this Com-
pany in his former pany in his former mill when it was destroyed, and
when he deecided to rebuild he did when he decided to rebuild he did not hesitate $t$ t
adopt the line of machinery that had given hin good satisfuction in his old mill.
Among seme of the Cummer Engine Co. 's more re cent orders for engines, are the following: A 5,
horse-power for Porter \& Worrell, of 67 horsere-power for Stults \& \& Kile, Orwell, Ohio; $a$, $a$ horse-power, with outtht complete, for the Ft. Wayne
Jenney Electric Jenney Electric Light Co., Ft. Wayne, Ind, ; one of
105 horse-power for Lorin Mitchell, Wausau, Wis. 7 is horse-power, complete outfft, for Cheesman. Dreisbach, Reno, Kan. ; and a a 137 horse-power engine or A. L. Johnson \& Co., Muncie, Ind.
The Cummer Engine Co. have recently added two lathes and a large steam hammer to their fline or a boring mill with a capacity to toed their order n diameter by 5 face. This will probably be the argest machine of the kind in the Western States, chinery, coupled with increased facilities for hand ing, will be the most complete and best equipped shops in this country for automatic engine building. Another proof of the superiority of the Cummer Yania Railroad Co. have just placed their order with he Cummer Engine Co., of Cleveland, O.; and this was done after a thorough investigation of the vari uis automatic engines by their best experts, who ngines in odifferent manufactories and examined the The Pennsylvania Kailroad Co. thoroughly investiate the merits of everything they purchase, even
down to the least. Nothing but the very best
everything enters into their consideration and ado
ion. Therefore, the importance of having nothin but the best automatic engines caused that compan $y$ two independent set of experts, and the fact th oth set reported in favor of the Cummer Engine, uite a feather for the Cummer Engine Co.'s cap, nd one that they may well feel proud of.
The following millers have lately bought the well nown Cone-Shape Becker Wheat Brush, made by he Eureka Manufacturing Co., of Rock Falls, 111 s ford, Texas; H A. Kilgour, Kas a Roberson, Craw Weisenburg, Georgetown, Ky.; George Mader, Win chester, Ills,; John Spencer, Barrington, Ills rouch, Whitaker \& Co., Bell Buckel, Tenn.; Brow \&.Chatburn, Hastings, Neb.; Mourtel, Borgers \& Co East St. Louis; Lock \& Thornely, Swanville, Minn The Cu LCo, Wa Wworth,
The following millers have put in Gray's Notseles
Beit Roller Mills, purchased from Messrs. Allis \& Co., of the Reliance Works, Messrs. Edw. Barker, Sparta, Il., a Gray's Noiseless Belt Rolle Mill; Sinker, Davis \& Co., Indianapolis, Ind., a Gray' Noiseless Belt Roller Mill; C. A. Gambrill Mfg. Co less Belt frames; S. B. Pierson's Sons, Lawrence Kas., four pair porcelain rolls, in Gray's Noiseles aelt Frames; Wright Bros. \& Co., Greenville, Mich Lemars, Ia., a Gray's Noiscless Belt Roller Mill; W H. Ridenbaugh, Boise City Idaho Ter., two pair po celain rolls; Curtis \& Disbrow. Hillsdale, Mich.,
Gray's Noiseless Belt Roller Mill, Gray's Centrifuga Reels, etc.; La Dorr \& Co., Pleasant Hill Centrifuga pairs Allis rolls, in Gray's Noiseless Belt Frames Victoria Flour Mills Co.. St. Louis, Mo., a Gray's
Noiseless Belt Roller Mill: J. H. Catron, Nebraska Noiseless Belt Roller Mill; J. H. Catron, Nebraska
City, Neb., a Gray's Noiseless Belt Roller Mill; Mon eux Bros., Monroe, Ia., a Gray's Noiseless Belt Roller rolls, in Gray's Noiseless Belt Roller Mill Frames Jno. K. Mullen \& Co., Denver, Col., tive pairs Allis
rolls; Jno. W. Kaft pairs Allis rolls, in Gray's Noiseless Belt Frames
the capacity of the "President Mills," at Bethalto, Ill., from 600 barrels per 24 hours, to 1,200 barrels.
Messrs. Allis \& Co. built the "Preitlent Messrs. Allis \& Co. built the "President Mills" last
year, and it has given such good satisfaction the year, and it has given such good satisfaction that the
mill will be doubled in capacity for the coming seamin wil be doubled in capacity for the coming sea-
son to keep up with its orders. F. J. Schupp, Marshall, Mo., five pairs Allis rolls, in Gray's Noiseless Belt Frames.
The following orders have been placed with Messrs. Edw. P. Allis \& Co., during the past month: Through
Willford \& Northway, Minneapolis, ten pairs Allis rolls, in Gray's Noiseless Belt Frames, for C. Albers Wausau, ill.; a Gray's Noiseless Belt Roller Mill for B. F. Gump, Crman Bros., Young America, Minn Roller Mill. Through, Ill., a Gray's Noiseless Bet Gray's Noiseless Belt Roller Mill City Mill Works, Downe, Kas. Through Simpson \& Gault Mfg. Co welve pairs Allis rolls, in Gray's Noiseless Be
Frames, for J. W. Boyd \& Co., Fulton, K . Gray's Noiseless Belt Roller Mill for another of thei ustomers. Through Richards \& Butler, Indianapo is, nine pairs Allis rolls, in Gray's Noiseless Be
Frame. Through the Slater Mill Co rame. Through the Slater Mill Co., Blanchester, O.,
welve pairs Allis rolls, in Gray's rames, for Messrs. Haldeman \& Co.. Bement, Il Through Wolf \& Hamaker, Allentown, Pa., twelve arirs Allis' rolls, in Gray's Noiseless Belt Frames, fo Messrs. J. L. Reigle \& Son., Reiglesville, N. cen pairs Allis rolls, in Gray's Neavenworth, si rames. Through Milwaukee Dust Collector Belt G Scee, a Gray's Noiseless Belt Roller Mill, for . schaap, Grand Island, Neb.
FOR SALE—A half niterest in the "Mlderles"

 ing. Apply at ${ }^{\text {a }}$
Dodge Co., Wis.

FOR SALE $-\frac{1 \text { want to sell a third interest }}{\text { one of }}$



PARTNER WANTED-A Alrsterases


## STANDARD BOILER PURGE


WESTERN SUPPLY CO., Milwaukee, Wis.


TRIUMPH" CORN SHELLER 2000 U $\checkmark$ HELS PER DAX Shells wet or dry oorn.
Apess PAIGE MANUF'G CO.,
No. 12 Fourth St., Painesville,
Improved + Walsh $\ddagger$ Double $\div$ Turbine

fitting oylinder gate and
draft tube combined, and
allows no water to escape
when closed. POWER GUARANTEED equal to any wheel on the
narket using equal amount
af water
B. H. \& J. SANPORD,

Phenis Iron Works,
Sheboygan Falls, Wis.
The GRAND HAVEN ROUTE Detroit, Grand Haven \& Milwaukee RAILWAY LINE
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Two Through Connections Daily
Steamer OITY OF MIL MAUKEE, Side wheel
leaves her dock at 2:30 P. M., daily, (Sundays included.) and makes the run to Grand Haven in five hours, con-
neeting with 9 P. M. through train for New York, Bosenger Steamer and carries no Freight strietly a Pas-


 is now owned and controlled by the Railway Company.
Ticket Office, No. 99 Wisconsin Street, and at dock
int

## T. TANDY, B. C. MEDDAUGH,


choice bevelled edae
FLOUR BRANDS

 Box 114

2 Wisconsin St., Milwaukee.

## NOTICE.

To the Members of the Missouri Millers, State Association:
For various reasons it has been deemed best to hold the regular annual meeting of the Association this year at Chicago, in connection with the meeting of the National Association, which is set fo June, exact date to be fixed late;, and the Chairman of the Executive Committee instructs me to make this announcement to the members.

DAVID B. KIRK, Sec'y


Hopewell Turbine.
chio moat fintanen nad Emaion whot aminat bo

 Variety lron Works, Send for Illustrated Cata-
logue and Price List.

WANTED A miller wis
W ANTED- perience whith has had 14 years y -
 3 years and understands the system thoroughly,
Am 30 years of age and married; can funnish reter:

 two barns, and 114 acrese of lande sam, situted ederwinings
south of ste Genevieve and ten miles west of st,


## A 6X12 ROLL.

2iner $\}$ BELTING, BOLTING CLOTH
Elevator Buckets, Bolts, Mill Irons, \&e.
Prices Close and Quality the Best.
The Case Mff. Co., Columbus, 0 .

# The CUMMER AUTOMATIC ENGINE 

Is Unequalled in

Ease of Operation, Effective Duty, Close Regulation, In Quick Starting up to Speed,
Uniformity of Speed and Economy of Fuel.

Awarded the Gold Medal at the Cincinnati Exposition, and a Special Prize for Extraordinary Merit; also the Highest Medal at Louisville for the Best Automatic Engine. IT is the best engine made.

These are points of Importance to every Miller and Manufacturer who expects prompt, even, duty of an engine. Printed matter, cuts, and information promptly furnished on Application. Send for our 150 page Illustrated Catalogue.
[Please mention this Paper when you write to us.]
GUMMER ENGINE GO., Gleveland, O. $_{\text {G }}$

## NOTICE.

In the year 1880 we furnished a mill in the State of Michigan, with Twelve pairs of Steven's rolls. After running constantly night and day until Aug. 3, 1883, the mill was burned and the rolls were more or less seriously damaged. The rolls and frames were sent to us for repairs. Twelve pairs were re-ground and re-corvugated. The frames, which were of our earliest pattern, were put in as good order as possible, and new housings urnished. In this condition we returned the mills to the owners. Subsequently, we are credibly informed, the mills were sold to a Mill Furnishing House in Indiana, which is now offering these same mills us "new Stevens Double Roller Mills." This is a fraud upon us and the public.
If anyone wants a line of SECONDHAND Steven's Roller Mills we can recommend the above lot consisting of six double mills. For NEW MILLS apply to us or our authorized agents.

THE JOHN T. NOYE MFG. CO.,
Buffalo, N. Y.
Beware of Second-hand Stevens Roller Mills offered by one of our competitors. They were made in 1881 and have since passed through a fire.




VIZ:--- We make a larger line of Modern Mill Machinery under one roof than any Firm in the country. Our machines are all adapted to each other. We can furnish a line of them at less cost than others can afford. We have had


- BISMA RCK. a wide experience and are well informed as to Modern Milling, separations, dec. Our machinery is as good as the world can produce. For those who want only a partial Roller system we have the best arrangment and at the least cost of anything yet introduced.

Millers who want to be benefited and don't want full Gradual Reduction, should not decide upon their plan until they confer with us.

We invite your correspondence.

## It is Dustless and Noiseless!

It has THE BEST FEED in the World!


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GENERAL MILL FURNISHERS
Kurth＇s Improved Patent COCKLE SEPARATOR， Built also in combination with Ritoarartoon＇ Wheat Separators． Large Capacity combined with Good Quality
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Boardaloo＇s Patoat GRAIN CLEANERS， Filly Guaranteed to give the Best of Satistac



This Wheel is considered one of the most orrect that has been devised，gives the highest results，and，with late improvements，is now the best，most practical，and efficient Partial Gate Wheel in existence．

For Economy，Strength，Simplicity，Dura bility，and Tightness of Gate，it has no equal． State your requirements，and send for Catalogue to

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EUREXA GRAIN CLEANING MACHINERY（ HOWBS \＆EWEL工， $\left.\begin{array}{c}\text { more than } 18,000 \text { Machines } \\ \text { in } \\ \text { use in all parts of the World．}\end{array}\right\}$ Silver Creek，N．Y．

45 LBS FLOUR．

60 LBS．WHEAT．
The Thayer Manufacturing（s）Mill Furnishing Co．


Manufacturers of
COMIMON SENSE THREE REEL BOLT．
Without Conveyors．
Runs with one－half the power of ordinary Bolts．
Correspondence solicited．

THAYER＇S PNEUMATIC MIDDLINGS PGRTEIERE．



 Thayer Manufacturing \＆Mill Furnishing Co．， ［Please mention the Unitrd Statrs Miller when you write to us．］

BRAN MIDDLINGS． MITGHINER \＆LYNNE．

## Old Corn Exchange， <br> LONDON，ENGLAND．

Are O．I．F．Fuyere of the Above．


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MILL PICKS！ MILWA UKI潟，WIS．
I have had twenty－two years＇experience in the
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Whe have hundreds of gratifying testimo nials from nearly all the states．We solicit your or
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Milwankee，＿ake Shore \＆Western RAILWAY，
THE BEST LINE BETWEEN Milwaukee，Sheboygan，

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2 DAILT THROUGF TRATNS 2
Sleeping Cars on all night Trains．
Double Berth 75 cents to $\$ 1.00$ ．
The Best Route From Oshkosh and Appleton to all Points
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entited Forests，streams and Lakes of Northern
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Corner East Water \＆Mason Streets， MILWAUKEEE，WIS．

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Den＇t order your Cloth until you have conferred with us；it will pay you both in
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Office \＆Factory：Columbus，Ohio． Fifth St．，North of Waughten．


Milwaukee，

CORRUGATING ROLIERS：

Repairing and Recorrugating a Specialty
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and ADAPTED to the wantson Farmers，Mechanics and
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makestheartof computation EASY and
for a chimplde．It even
 sellingranghll ofray kind it ivill tell how many bush－
els and pounds are in a loadand how much it will come els and poundsare in a load and how much it will come
to without making single calculation．In likemanner
it shows the value of Cattle，Hogs，Hay，Coal，Cotton， cool，，Butting ，Egss and all kinds of Merchandise．In
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ters＇；Pasterers＇and Bricklayers work，ete．It，how． ever，not only tells results，but also TEACHES entirely
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y interesting to every studentitof this great and use－
ful science． ful science．It is neatly printed on tine tinted paper，
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by a silicate Slate．Memorandum，poocket for papers
and picer and PERPETUAL Calendar，showing the DAY OF THE
WEEK for any pate in the 17th，18th，19th and aoth cen－
turies．It will be to every ones interest inded to turies．It will be to every one＇s interest indeed，to
examine this useful and convenientwork beforebuy．
ing a new memorandum as it saves not only time and oxg a new memorandum as it seves not only time and
ing not ortion
labor，but orten dollars and cents as well，and withal
costs no more than an ordinary diary in similar bithd－ ing．
No．3，Full Leather，with slate，pocket，flap and mem．
\＄1．00．Sent Postraid on receipt of price． Address，UNI PED STATES MILLEK，

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 and maphin，ind，with all the former patterns，tools，
and machinery，and those of the flrm who formerly
fuilt up and established the reputation of this hor Therefore to stave delay or miscarriage，all letters in－
The to tended for this concern should beaddressed with care
to
NORDYKE \＆MARMON CO．
INDIANAPOLIS，IND．
FINE Moboo－ENGRAVING Stiderivilon crass

PARTNER WANTED $\begin{gathered}\text { To put in the Roll } \\ \text { er yysem } \\ \text { nin whal }\end{gathered}$ is now a frst－class 3．run Water power Custom and
Merchant MIII Building of stone 3ixt4 tit，three
stories besides basement and attio．Best built mill in tie state for its size：never falling Weater power；de
lightfully located in a village near R．R．station，a outlet of lake 3 miles long ly wide，with a river run－
ning through it．Can buy abundanco of cholve wheat
at mill door，so as to be able to deliver tlo at mild door，so as to be able to deliver Hour in Mil－
waikee at 30 cents per barrel less than Milwaukee
mills oan produce it．Good run or outom，and ready
sale for all ofral and feed at retail prices．To the


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|mill bullders ain prilishers, |


## Wegmann's Patent Porcelain Roller.

We shall be Pleased to hear from Millers contemplating an improvement in their Mills, or Building new ones, and can furnish Estimates and Plans of our system of GRADUAL REDUCTION ROLLER MILLING. We have built and Changed over hundreds of Mills, in all parts of the Country, and using all classes of wheat, BOTH HARD AND SOFT, and can furnish references on application. The Largest and Best Mills of this Country are using our Nystem and Roller Machines. Messrs. C. A. Pillsbury \& Co., of Minneapolis, have over 400 PAIRS OF OUR ROLLS AND HAVE RECENTLY PLACED AN ORDER WITH US FOR ABOUT ONE HUNDRED AND TWENTY MORE. We have had a longer and larger experience in Roller Mill Building than any other manufacturers of this country. There is no EXPERIMENT ABOUT OUR SYSTEM and Rolls, so expensive to millers, and when the mills that we build or change over are ready to start, THEY DO SO AND WITH PERFECT SUCCESS, and there is no further changing, additions, stopping or expense. We manufactured and sold during the year 1881 over TWO THOUSAND FIVE HUNDRED pairs of rolls.

We can send competent men to consult with any millers who contemplate an improvement, and whom they can depend upon as being RELIABLEAND THOROUGHLY COMPETENT to advise them as to the number and kind of machines required, best method of placing them and the change required, if any, in the boling and purifying system. WE DO NOT URGE A GENERAL CLEANING OUT OF ALL OLD MACHINERY unless we clearly see such would be the ONLY COCRSE TO PURSUE to make a SATINFACTORY AivI RELIABLE MILL. In nearly all instances we can use all the Old Machinery, leaving it in its original position, or with as slight a change as possible. We aim to make the Improvement so that it will be a Profitable one to the Miller, and at the least expense possible.

Our System is THOROUGH and RELJABLE, and our Roller Machine Perfected by Long Experience, and the Miller takes no chances in using them, as HE DOES with the New Fangled Notions of Drive and Adjustment on many other machines now TRYING TO FOLLOW OUR IMPROVEMENTS and still avoid our Patents, in BOTH of which THEY FAIL. We were the first to advocate the Entire Belt Drive, and were opposed by every other maker, who claimed it was not positive, etc., etc., and now that our Belt Drive is an ACKNOWLEDGED SUCCESS, and will SUPERCEDE EVERY OTHER STYLE, these advocates of Gear Drive have suddenly learned that Belts are the Thing. The same may be said of our Spreading Device, Feed Gates, and Adjustable Swing Boxes. Other Makers are now copying these. ALL these Features, including BELT DRIVE with ADJUSTABLE COUNTERSHAFT and TIGHTENER, the SPREADING DEVICE, FEED GATES, Adjustable Nwing Boxes and Leveling Devices, Self-Oiling Boxes, etc., are secured to us by several Strong Patents, and we CAUTION MLLEERS in regard to these Infringements of Our Patents and Rights, for we shall look to THEM for Redress. The matter is in the hands of our Attorneys, who will soon take VIGOROUS ACTION against the Makers and USERS OF MACHINES infringing Our Patents.

Several machines are already on the market which Broadly Infringe, and we are informed that other makers are now changing their Old Style Machines, and adopting in a large measure Our Improvements. BEWARE OF THEM.

Send for New Illustrated Catalogue, Giving full Information to

# EDW. P. ALLIS \& CO 

 MILWAUKEE, WIS.Branch Office 318 Pine Street, Benson Block, SAN FRANCISCO, CAL.

[^3]Southern Exposition at Louisville, Ky., 1883.
The Board of Directors has confirmed the following report of the Jurors on Awards for the Southern Exposition of 1883, and decreed an auard therewith as jollows:

RTPPORT ON AVUARDE.

PRODUCT-Roller Mills (Gilbert d Livingston). EXHIBITOR-STOUT, MILLS and TEMPLE, Dayton, Ohio.

AWARIC-A Medal for the BEST ROLLER MILLS.
The Award as made above is in the hands of the engraver, and will be delivered soon as completed.
Louisvilie, Nor. 26, 1883.
The above is an exact copy of notification of Award sent us. Cuts of Roller Mills referred to.

## The Gilbert Combination The chalpoiss!

Acknowledged by ALL USERS and DISINTERESTED JUDGES to be the Best Combination Mill in the World.


## Reduction Roller Mill.

It is used in a Gradual Reduction Mill to make the breaks, and to do the scalping between same, and aspirates the stock after EACH separation. The products from the Mill are Bran for the Duster, and Middlings for the Purifier.

## TheLivingston Belted Roller Will

The strongest, simplest, yet most completely adjusted Four-Roller Mill in the market. It can be used for reducing all kinds of grain.

For descriptive circular and price list, call on or address,

## STOUT, MILLS \& TEMPLE,

Sole Manufacturers,
Dayton, Ohio.


CHAS. bakes, Lockport, N. Y., Sole Agent for New York, Pennsylvania, Virginia, W. Virginia, Maryland, New Jersey and New England States.

## Nordyke \& Marmon Co., INDIANapolis, Ind.

bUILDERS FROM the raiw material of

## ROLLER MILLS,CENTRIFUGALREELS,

Flour Bolts, Scalping Reels, Aspirators, Millstones, Portable Mills,


## All Kinds of Wiill Supplies = 를 United States.

## 500 BARREL MILL IN MISSOURI.

read what an old miller, who has thirty-four paibs of these rolls in constant use, says:
 Gentlemen:-7n resard to the workings of our new mill erected by you, will say it is working fully up to and beyond our expectations. Our
average work is fully 33 per cent. over your kuarantee. Since starting our mill last July we have had no complaint of our flour from any market
 We have not changed a spout or a foot of cloth, nor have we found it required to make any changes. We have run as long as six days and nights
without shutting steam off the engine, not having a "choke" or a belt to come off. The mill is entirely satisfactory to us, and for a fine job of
 500 BARREL MILL IN ILLINOIS.
 no trouble. Your milling prokram required no changes, and concerning yields, we get all the flour from the offals, and we sell our best grades in the principal markets of the United states at the highest prices offered for any flour. All the machinery made by you is firrt-class, and we would
not know where to purchase as good.
Yours respectfully,

125 BARREL MILL IN INDIANA.

 all we could see, those built by you seemed to be giving the best satisfaction, and this is why we bought our machinery of you, Our mill comes
fully up to your kuarantese, and the capacity runs over your garantee. The bran and oifal is practically free from flour, and our patent and bakers tlour compares favorably with any we have seen elsewhere. Idon't think anyone can beat us. Your Roller Machines are the best we
have seen, they run cool, and the interior does not sweat, and cause doughing of the tlour. Judging from our success, we would recommend
other millers to place their orders with you.
J. Tours truly,

#  

 NOOTE BOLTING OLOTH DUFOUR | Switzerland, and is the only cloth in the erorld which can be recognized by the CoLORED |
| :--- | :--- | qualties, and the purchaser to know what

One Green Thread Indicates Standard Quality.
One Rea Taread Indicates Extra ounlity.
Two Red Threads Indicate Double Extra Quality.

## THE GENUINE DUFOUR.

All these qualities are made BEFORE the piece is woven and not by mechanical means
 CLOTHS MADE UP IN A SUPERIOR MANNER BY PATENTED MACHINERY.
THE JOHN T. NOYE MANUFACTURING CO., BUFFALO, N. Y., U. S. A.


## ODELL'S ROLLER MILL SYSTEM.

Is now in suceessful operation in a large number of mills, both large and small, on hard and soft wheat, and is meeting with Unparalleled Success. All the mills now rumning ng very fine and close work, and we are in receipt of the most fattering letters from mile res. Referencest and
to parties using the Odell Rolls and System, will be furnished on application to all who desire to investigate.


## ODELL'S ROLLER MILL, <br> Invented and Patented by U. H. ODELL, the builder of several of the largest and

## AN ESTABLISHED SUCCESS

$\rightarrow *$ POINTS OF SUPERIORITY* $*$
possessed by the Odell Roller Mill over all competitors, all of which are broadly covered by
patents, and cannot be used on any other machine. patents, and camnot be used on any other machine 1. It is driven entirely with belts, which are so arranged as to he equivalent to giving each
of thie four rolls a separate driving-belt from the power shaft. thus obtaining a positice differential motion which cannot be had with short belts. 2. It is the only Roller Mill in market which can instrutly be stop, wed without
throwing oft the driving-belt, or that has adequate tightener devices for taking up the stretch of the driving-belts.
3. It is the only Roller. Mill in which one movement of " houd-locer spreads the rols apant and shuts off the feed at the same time. The reverse movement of this
lever brings the rolls back again exactly into working position and at the same time turns on the feed.
4. It is the only Roller Mill in which the movable roll-bearings may be adjusted to and
from the stationary roll-bearings without disturbing the tension-spring. 5. Our Corrugation is a decided advance over all others. It produces a more even gramu-

We use none but the Best Ansonia Rolls. OUR COREUGATION DIFFERS FROM ALL OTHFKS, AND PRODUCES LESS BREAK FLOUR and MIDDLINGS of BETTER QUALITY. Mill owners adopting our Roller Mills will have the benefit of Mr. Odell's advice, and long experience in arranging mills. Can furnish machines on short Notice. For further

## Stilwell \& Bierce Manufacturing Co.,

The Largest Mill Furnishing Establishment in the World. FRIMIANNOE WORESE, EDW. P. ALLIS \& CO., Proprietors.


MILWAUKEE, WIS., U. S. A.
SOLE MANUFACTURERS OF GRAY'S PATENT Noiseless Belt Roller Mills WITEX

## Wegmann's Patent Porcelain Rolls.

## Unexcelled for reducing Middlings to Flour.

Far ahead of Smooth Iron or Scratch Rolls and entirely superseding the use of Mill Stones for this purpose.

## Read the F"Ollovving Ietters.

## Terre Haute, Ind., Aug. 22nd, 1882.

Messrs. E. P. Aillis \& Co., Milwaukee, $\mathrm{W}_{\text {is }}$
Gentlemen :-We are very much pleased with the whole eight set of Porceain Rolls you put in our Mill. The two double sets sent us soon after starting up our mill last fall, we put in place of two run of stones for grinding our coarse Middlings

We find the Flour from the Porcelain Rolls much more evenly granulated and nuch sharper and cleaner than that we got from the stones, besides the second or fine Middlings are much better, being almost estirely free from germs and not as specky

Yours Truly,
KIDDER BROS.

Messers. E. P. Allis \& Co. Kings County Flour Mills, Brooklyn, N. Y., Aug. 15, 1882. Geve Gemen:- lou ask how I like the Porcelain Rolls as compared with Mill Stones Hing the original Porcelain Gear Machines for five years and became conI am now operating your Improved Machine of increased size with nice adjustment grainy and strong, and its capacity two or three times The Flour it produces is beautifully with costly stone dress, gives no trouble, consumes less power than Mill Stones, dispense ings is unequaled by any Machine iron or middlings and soft branny residuums and tail of practical experience.

Yours truly,
Head Miller Kings JoHN HARYEY,

ALSO SOLE MANUFACIURERS OF THE CELEBRATED

## REVNOLDS' <br> CORLISS ENGINE.



These Engines are especialIy adapted for use in Flouring Mills-being unsurpassed in Simplicity, Durability and ECONOMY OF FUEL, and far ahead of any other

Automatic Cut-off Engines.

Send for catalogues of Roller Mills, Flour Mill Machinery, Saw Mill Machinery, Reynolds' Corliss Engines, etc., etc. Address :

Edw. P. Allis \& Co.. milwaukee, wis.

The following is a partial list of Flouring Mill owners who are using the Reynolds' Corliss Engines.


## The United gitates


MILWAUKEE, JULY 1884.

a revolution in wheat cleanina.
The illustration shows the Curtis \& Helfrich Grain Cleaner, the latest, and in the opinion of millers and elevator men, the best wheat cleaning machine ever placed on the market. It was invented at Minneapolis, the world's center for milling, by practical men. Mr . Helfrich is a successful head miller, and this machine is the result of a long course of practical experiments in one of the leading flour mills of that city. The wheat is beaten with direct blows while it is suspended in the air and surrounded by an air current. Instead of being packed closely together in a confined space and then rubbed, as in friction machines, the kernels are separated and kept constantly flying to and fro in the air. The blows are given by beaters mounted upon a series of revolving shafts working within a perfectly smooth, perforated steel shell, of peculiar shape.
The three shafts, as shown in the engraving, armed with beaters, all revolve at high speed and in opposite directions. The beaters interlap, thus causing thousands of conflicting blows. The grain is driven back and forth from one beater to another in a perfect tempest and the fine fufy material that lodges in the crease, in the ends, and the pores of the huh, is beat out mach the same way that the dirt is removed from a coat by whipping it. As fast as the dirt is removed it is driven through the perforations and carried off by the suction. Working on this novel and simple principle very little power is required for an astonishing amount of cleanit will reseve more the fine fluffy material it will remove on the rery at on the outsion with a friction machine at than can be don with foss pow . What is three or four. and with less power. What is wheat nor injury to the hull. The bran on the berry is left in beautiful milling condition, the berry is lef the glass, while the brush on the ends of the kernels is removed and the crease thoroughly cleaned out.
The severest test to which a cleaner can be put is that of cleaning smutty wheat, and it appears by the testimony of elevator men that this one is achieving a remarkable success in thatimportant branch of the is as fine The pollen from a broken smut buff ball, and and penetrating as that from a pufl ball, and grease upon a person's hand: But the wheat men of Minneapolis have shown samples of such wheat so thoroughly cleaned on this such wheat so thoroughy impossible to believe that it could be the same grain.
Equally important in the eyes of millers are the facts that the berry is not injured and that the machine is simple and durable. There are no rough corrugated surfaces against which the wheat is thrown or rubbed. The inside of it is perfectly smooth, the work is done by tossing the ketween the beaters, its efficiency is not impaired no matter how long it is used. The beaters will strike blows so long as there is anything left, and there is no wear out to the machine. It is very simple in construction, with no fine parts to break or get out of order. Everything is heavy and strong. C A. Pillsbury \& Co., the largest flour manufacturers in the world, already have four of the machines in use, and they are giving entire satisfaction. For further particulars we refer our readers to the manufacturer, Mr. F. E. Curtis, Windom Block, Minneapolis Minn.

## SUFFICIENT POWER.

Many a mill-builder carries out a principle of false economy when he places the boilers and engine in his establishment. A weak man cannot lift a heavy weight; a small horse cannot pull a heavy load; yet there are men, and plenty of them, who seem to think that a small engine is capable of driving heavy machinery. Too often machinery salesmen do much to induce men to believe this. Knowing the disposition of the majority of men to build as cheaply as possible,
these salesmen argue that a small engine will
do the work satisfactorily. "I want to cu from 40,000 to 50,000 feet of lumber a day," says the lumber manufacturer. "Oh, well,", says the salesman, "this engine will do it." Probably it will do it. With easy feed the
saw is driven through the $\log$ in a manner saw is driven through the $\log$ in a manner that cannot be complained of. But by and by there comes a time when there is need to hurry. Advantage is wanted to be taken of a good market, there is a big order to fill, o
something of that kind, and the brake i something of that kind, and the brake is taken off. The time has come to push things,
but it is discovered, when it is too late, that but it is discovered, when it is too late, that
there is no pusher. The little engine struggles, but with all its struggling the saw does gles, but with all its struggling the saw does
not "walk" through the log. This, above all things, makes a saw-mill man nervous if not mad. He is anxious to see his mill go at a 2:40. gait, but it doesn't come under the wire in less than four minutes. As he is his own driver he knows there has been no "pulling," and must settle down to the conAn engine should be of sufficient power to drive the mill to its maximum capacity, and
vexations of the saw-mill business are many. The speed of the saw was not uniorm enough to produce good lumber. He bore the taunts of his neighbors that he could not raise the broom over his ridge-pole. There are unprofitable delays. The old engine has to be sold at a heavy discount, for the dealers in second-hand machinery are like those in second-hand clothing-they generally buy
their goods for less than they are worth and sell them for more than they are worth and sell them for more than they are worth. For
the new engine there must be a stronger foundation put, and altngether the string of perplexities and expenses is a long one.
It is impossible for a man who builds a mill to know beforehand how hard it will be necessary to drive it. If the price of lumber jumps up suddenly, he will feel like putting n all the steam and feed possible. And even It may be found desirable to attach a planer, or some other machinery, and if it is, it will be necessary to have enough power to run it in connection with the saw. To increase the capacity of a mill is an almost every-day oc


The Helfrich-Curtis Grain-Cleaner.
that easily. An overworked engine complains as loudly as an overworked man. It speaks plainly for relief at every stroke. It says in language that cannot be misunderstood: "You can work me thus hard, of course, if you choose, but though I am made of iron and steel, I cannot endure everything, and if you don't let up you will have to call in a physician." The engine speaks the truth. The strain and friction go on, and the engine gets sick. It has simply worked itself sick. The physician comes in, and, at considerable expense, doctors it up. Parts are replaced, and everything is again put in good shape. The engine is again well, but is no more infal ible than it was before. The same cause produces the same effect. Overwork again prostrates it. A consultation is held, and one side, and then the manufacturer of it hears that his engine that was putin at such and such a place has been replaced. must be a not do the wor, cor manufactures make cappoor engine. Other wink and adroitly infer ital out of it, slyly wink, and adroity infe is probable that the engine was first-class in every respect. It came out of a shop where every respect. It was simply worked beyond its strength and the
blame.
The result is damaging to the maker of he engine, and to the man who purchased
The latter has been bothered to suc extent that he has decided that the
currence, and, oftener than otherwise, such a We necessitates a new engine or boiler. We have heard of thousands of complaints from mill and factory men because they did ot have enough power, but not one because man ever found fault because his engine was too large. If it is larger than he really requires he is pleased rather than therwise. He not only has the satisfaction of seeing his machinery running easily and at a uniform rate of speed, but he knows that in case of an inof speed, but he knows that in case of an inhe will be able to meet it promptly without additional expense.
Reserve expens
Reserve power is always desirable, at times highly profitable, and the extra cost of an power is one of the best of producing such man can make, - Northwestern Lumberman.
tWENTY-SIXTH ANNUAL REPORT OF THE MIL WAUKEE CHAMBER OF COMMERCE.
The twenty-sixth annual report of the rade and commerce of Milwaukee, for the ear ending December 31, 1883, and fiscal April 7, 1884, compiled for the Chamber of Commerce by its secretary, William J. Langson, was issued June 19. It is a handsome octavo pamphlet of 152 pages, and forms a octavo pamphet of the commerce of Milwaukee for the year. Following is a very full summary of Mr. Langson's report:
The commerce, manufactures and general
visibly affected by the general commercial depression common to all parts of the country, and generally accepted as one of the unavoidble concomitants of the rapid methods of the eriod. Current statisties of commerce and manufactures are, therefore, regarded as a f gains. In this view of the situation, while Milwaukee is not an exception to the rule, we ave reason to congratulate ourselves that our progress has been slightly checked, the if our progress has been slightly checked, the point of fact, the general business of Milwaukee has been exceptionally exempt from serions failures, and although results are generally of a negative character in comparison to the uniform prosperity to which we have been example of the substantial and conservative qualities for which the mercantile, manufacuring and financial interests of Milwaukee ave so long enjoyed an unsurpassed reputaion throughout the commercial world. These mpressions are substantiated, to some extent at least, by a comparison of the general volume of business for a number of years as indicated by the reports of deposits furnished the Chamber of Commerce by the various banks and banking houses of Milwaukee. The aggregate of these reports presents the following exhibit:


Statistics of the grain trade of Milwaukee for 1883 present some encouraging features, howing an increase of the aggregate receipts the belief expressed in our last ngthening the belief expressed in our last report that erod than will be known in the future wheat rade of Milwaukee. The movement of wheat was notable as marking the first increase of receipts in the last four years. The quality receipts in the last four years. The quality isfactory than either of the preceding crops, and this fact has had an important bearing in restoring the confidence of buyers in the qual ty of Milwaukee wheat, which had been more or less impaired by the comparatively poor condition in which one or two previous poor had been haryested. The total receipts were 278,902 bushels: and of all kinds of grain 1,892,332 bushels. The receipts of barley show a marked increase over all previous years -showing a total of nearly $7,000,000$ bushels, of which about one-third was consumed by local brewers. Milwaukee is now the leading barley market west of New Y ork, the appaently large receipts of Chicago $(8,831,899$ bushels in 1883) including over $3,000,000$ of railwaukee receipts shipped east and south y increasing throduction of barley is constantcountry, and with a large local demand to supply her extensive breweries, Milwauke will doubtless retain the leading position she has attained as a barley market. The reputation of Wisconsin and Minnesota barley, as graded by Milwaukee inspection, ranks high throughout the markets of the east.
The following statement presents a consolidated view of the receipts of all kinds of grain at Milwaukee for the last three years, and will show at a glance the gains and losses:

## Bushels. Wheat,.

Corn....
Oats....
Barley.
Bariey...
Rye.....
Total grain ....

| 1883. |
| :---: |
| 9,278,023 |
| ,2,258,882 |
| 2,838,599 |
| 6,899,146 |
| ... 630,873 |
| .21,802,352 |
| 15,168,590 |

1882. 

$8,958,42$ $2,087,680$ $2,581,808$
$5,138,818$
1918
$\begin{array}{r}\text { 491,008 } \\ \hline 18,307,734\end{array}$
$15,004,368$
$10,178,098$
946,985
$\begin{array}{r}946,97 \\ 2,277,571 \\ 4,533,31 \\ 677,1 \\ \hline\end{array}$
$\overline{18,608,111}$

Total kr ain and
flour in bus....37,060,929 38,
$38,400,102$
$38,766,443$
As the area of grain production increases throughout the territory recently opened to continued on page 37.)

THE UNITED STATES MILLER.

## United States $^{\text {Miller. }}$

## E. HARrison cawker, Editor.

PUBLISHED MONTHLY.
Office, Nos. 16 \& 18 Grand Avenue, Milwaukee.

## 

## All Drafts and Post-orice Money OOders must be made payble . Harriso Cawker. Bills for advertising will be

made payabie to E. Harrison Cawker.
Bills for advertising will be sent monthly, unless
otherwise agreed upond
For estimates for advertising, address the UnITED
STATES MILIER.

## [Entered at the Post Offlice at Milwaukee, Wis., as

MILWAUKEE, JULY, 1884.
We respectfully request our readers when they write to persons or firms advertising in this paper,
to mention that their advertisement was seen in the to mention that their advertisement was seen in the
United States Miller. You will thereby oblige not only this paper, but the advertisers.

## See Page 40.

Milwaukee mills are nearly all running and some of them to full capacity

Immigrants to the number of 82,581 arrived in the United States during the month of May. The Government estimate of the wheat crop of 1884, issued June 11, places it at about $500,000,000$ bushels.

The venerable and highly respected United States Judge Drummond has forwarded his
resignation to President Arthur, the same to take effect July
C. H. Seybt, of Highland, Ill., has returned from Europe. He reports the crop prospects in nearly all parts of Europe extremely avorable

Everywhere in the northwest the growth of grass seems heavier than has been known ingly heavy crop of hay are unexceptionably
H. G. Hill, Esq., of Rosario, Argentine Republic, S.A., has been paying our city a visit lately, the result of which will probably be America.

Asiatic Cholera, brought in a steamship from Pekin, has made its appearance at Tou lon, France. Several fatal cases are reported, adopted by the French authorities.

The owners of the "Roberts" patent are
still agitating their claims. Milling authories whose business it is to know, say that there is nothing in it. The trade can there
fore breathe easy during this hot weather.

From quite recent advices from New Zea land it appears that the average crop of wheat
in these islands is thirty-five bushels to the in these islands is thirty-five bushels to the
acre. Steam plows from England with American reapers and threshers are in common use
H. G. Wilson, Esq., of the Fuel Saving Furnace Annex Co., of St. Louis, Mo., calle
Mr. Wilson is now addin his annex to the Milwaukee Exposition boilers. Wisconsin steam-users will soon have
tion.

McLean, of the Richmond Mfg. Co., Lockport, N. Y.; Vanghn, of Nordyke \& Marmon
Co., Indianapolis, Ind.; Beardslee, of the Milwaukee Dust Collector Co. of Milwaukee; J Silas Leas, of Moline Ill.; and Thornburgh all at the Minneapolis Millers' pienic.

Wisconsin farmers are considering favor ably the system of carefully capping their barley shocks and threshing the caps sepa-
rately from the shocks. In this way they expect to prevent discoloration of the greater portion of the barley and consequently obtai
higher prices. higher prices.

The crop prospects generally continuing favorable, millers generally look for low prices for wheat and a fairly busy season in
the manufacture of flour. The grass crop is immense and consequently the demand for feed-stuffs is moderate at low prices. Considerable new wheat has already reached th St. Louis market.

In conversation with a well-known miller at Minneapolis recently, we asked the ques-
tion: Do you think that the numerous fail-
ures among flour-mill owners during the past ures among flour-mill owners during the past or to out a moment's hesitation he replied: "My dear sir, I think that it is entirely probable that eight out of every ten failures amongst flour mill-owners may be traced directly to unwarrantable speculation.

The Indian Wheat question is again agitating English members of Parliament; a new loan of some $£ 10,000,000$ to $15,000,000$ is being considered, for the purpose of extending the railway system of India, so as to facilitate the transportation of the wheat to the sea-
board. All this is worthy of consideration and study by our American wheat-growers.

Any of our readers desiring to purchase a flouring mill, will do well to read the advertisement on page 44, carefully. It is a good mill, in a first class locality with excellent water water, up and down the Ohio and the
Kanawha rivers. It will be a center, and the demand for flour in the mining districts to the Kanawha, is always large.
The Farmers' Tribune (Minneapolis), says: "The average wheat-grower of the northwest is between a fever and a sweat. If he effect is likely to be to depress the market by theprospect of a large surplus; if he sacrifices conscience and gives a blue aspect to the matter, he throws cold water on the immigration boom and depresses the value of wheat lands. This is a rough world.'

The Science of Blundering.-Herbert Spencer's latest article on legislative botchwork shows that four-fifths of the acts of
parliaments have to be repealed, and that all of them are ignorantly framed and proceed on vicious principles of government interference. He says: "We find on one hand, that there is scarcely one statute connected with the administration of public relief which has produced the effect designed by the Legislalature, and that the majority of them have created new evils and aggravated those which they were intended to prevent."

The editor of this journal passed a very pleasant day at the Minneapolis Miller's picnic, June 21. This was their fourth annual pienic originated and managed by the headmillers of Minneapolis, and their pienics have always been successful. We beg leave to
suggest to Milwaukee millers, mill-builders and mill-furnishers, etc., that it would be a good thing to follow their example. We have just as good and even better facilities in the steamboats, etc, railroads, beautiful gro take a day off and have a social time, and all feel better for it. What say you, gentlemen?

## WAGON ROADS

There are few sections of the country in which suffictent attention is paid to the building good wagon roads, and in many instances
if farmers could figure up their actual expense in hauling their wheat to the railroad station, they would find that it would be greater from their farms to the station than from the station to the great grain-marts of
the conntry. But few, if any, ever attempt the conntry. But few, if any, ever attempt to figure up this cost, which includes time,
wear and tear on horses, harnesses and wagons, and always greater personal expense when on the road than when at home. Great attention has been given to building railroads, cars, locomotives, etc., so as to obtain the and it is fully time that the public was thoroughly aroused to the importance of wagon roads that will be good at all times. Proper ials, and then good gravel or macadam will do the rest. The cost to all concerned will soon be repaid by the advantages gained.

## COMPLAINTS OF CANADIAN MILLERS.

A Toronto correspondent says that Ontario millers are suffering considerable loss owing to the present duties imposed by their Gov-
ernment on imports of wheat and flour, and that they are endeavoring to have the duty on wheat lowered. The writer says

Considerable competition is felt by them now from the American millers, who send their surplus flour over nere and sell it for what it will fetch on the Canadian markets. If the Canadian millers bring in wheat they have to pay a duty equivalent to 75 cents a barrel, while the duty on flour is only 50 cents a barrel. Owing to the difficulty Canadian millers experience in getting sufficient wheat here to meet all demands, and the drawback in the way of getting it from the Northwest, they are obliged to import from the United States. Thus it will be seen that the American ex-
porters who send flour to Canada are in much better position than those who produce past four years the millers country. For th past four years the millers here have been ernment to take off the tax canadian gov least a part of it, and place them on an equal footing to compete with the American millers But the government has refused, and the discrimination against our own millers goes on.'

The report of the Department of Agricul ture says: The exportation of wheat and flour for the fiscal year which ends June 30 will fall 25 per cent. below that of last year The exportation of wheat will amount to no more than $75,000,000$ bushels, against consid erably more than $100,000,000$ last year. The
difference in values will be even greater than this. The average value of wheat exported during the present year is slightly lower than that of the preceding year. The work of the American millers seems to be quite satisfactory to consumers abroad, as is shown by whe marked increase in the proportion of the falling off in values of wheat exported is fully 40 per cent., the decrease in the value of flour exported is but about 10 per cent. The exportations of breadstuffs of all kinds, including the corn, oat-meal, rye, oats, etc., for the year will reach $160,000,000$ against something over $200,000,000$ last year. Reports from the gratifying, and it is probable continue to be very gratifying, and it is probable that the exportthe demand abroad be good, considerably exceed those of the past year.

## ITEMS OF INTEREST.

The horse-power of a boiler, says the American Machinist, is a meaningless expres sion, because there is no agreement as to
what evaporation of water shall be considered a horse-power, and hence no standard in law or practice. The expression is properly or practice. The expression is properly
enough used by boiler makers as expressing the relative capacity of different boilers, as it is a matter of necessity for them to use some form of expression, and in the absence of something definite this is perhaps as good as any. The horse-power of an engine can only be determined by actual trial; but i the dimensions of cylinder, valves and ports, character of valve motion, speed at which the engine is to run, boiler pressure, length and diameter of steam and exhaust pipes,
and use to which engine is to be put are and use to which engine is to be put are
known, the horse-power that it will satisfacknown, the horse-power that it will
torily develop can be approximated.
Prof. Wm. Jago, F. C. S., of Brightoh, Eng., in his recent papers on the chemistry of bread-making, states some results of his flours to this purpose. He found in the Hungarian flours the tolerably uniform ratio of the wet to the dry gluten of 3.2 , an exceptional case giving 4.3. The tests of the percentage of dry gluten in certain wheat Duluth, 11.32 per cent. The average moisture in wheat he places at 14 per cent. The imas compared with the soluble albuminoids which latter are so liable by moisture and heat to degradation, was clearly pointed out They also act on the starch, especially if its cells are broken, which point is a question of importance in the processes of grinding that ought not to break the starch granules. Mr. Jago urged the importance of technical study on bakers if they would keep abreast with the requirements of the day
Improvements in ovens for public bakeries seems to be a specialty among the English bakers at present. The British and Foreign Conjectioner briefly describes a recent invenoven," whil the "patent continuous baking advantages. The ovens can be arranged singly, or one above the other, as the Dicker patent. The heat is generated in a furnace at the base, passing under and over the ovens through well-arranged flues, which equally distribute heat, and permit continuous baking. Coke is preferred for fluel; and an
ordinary chimney is all that is required for smoke, ete. The greatest heat may be brought to the mouth in these ovens, or by a system of dampers can be made to heat the top or chimney. The principal novelty is a traveling baking plate, on which the loaves are placed outside the oven, and are run in or out The mechanism, in less than half a minute fect retention of steam as required in Vienna bread-baking, while dampers permit, if desirable, its being entirely carried away, The relative expense is not given.
Thl agricultural statistics of the colony of have been published. The wheat yield for 1883-4 is set down at $15,499,143$ bushels, as
against 8,751,454 bushels in 1882-3, or an increase of no less than $6,747,689$ bushels. The ous year in oats as compared with the prevbushels; in peas and beans, 103,621; in pota toes, 31,519 tons; in hay 106,807 tons.
The quickest time ever made at an elevator, ays a Chicago exchange, was at Rock Island Golden Age was since. The monster ship Golden Age was at that time loaded with minutershers and ifteen minutes. As rapid time has never before

The steam power used by the manufactories of the United States, by the census of 1880, was equal to $2,183,488$ horse-power; the water power was equal to $1,225,379 \mathrm{horse}$-power -making in all the horse power of the United States $3,408,867$. Counting one horse-power to be equal that of six men, we have in the power used in the driving of our factories in this country the equivalent of the power of 20,458 _ 202 men. The steam power used in driving our factories not including the water power, is equivalent to the labor of $13,100,928$ men; and of our $50,000,000$ people only 35 per cent. are supposed to be capable of labor-in round numbers $17,500,000$ laborers, persons capable of pursuing gainful occupations, in the country; 000 yet it would take nearly all these $17,00,-$ by sten to furnish the force that is exercised ries, the wheels, the spindles and the machinery of this country; and we do not begin to touch, even then, upon the saving of power by the use of the machines which are manufactured in these factories.
To what purpose may not glass be put? Bearings made of glass are now being experimented with in the rolling stock of railroads, in regard to their frictionless quality. This material is a hard, clear substance, and must wear down smooth and give a fine bearing surface for an axle to rest upon. It is a nonconductor of electricity if not of heat, and the fine particles have as good a chance to work down the bearing of the axle to a running fit, as in the grinding in of a valve seat for a brass valve, and much power is expected to be saved by converting the wearing of a journal into some other agency than by converting it into heat.

A French Wag.-Meissonier had a gardener who was a good botanist and a great wag. He knew the seeds of all sorts of plants, and Meissonier was always trying and always failing to puzzle him.
"I have got him now," said Meissonier to some friends at a dinner party; and he showed them a package of the roe of dried herrings. Then he sent for the gardener. All the guests smiled. The gardener arrived.

## "Do you know these seeds"

## asked.

The gardener examined them with great attention. "Oh, yes," said he, at last, "that is the seed of the polpus fluximas, a yery rar tropical plant,"
A smile of triumph lighted the face of Meissonier. "How long will it take the seed to come up?" he asked.
"Fifteen days," said the gardener.
At the end of fifteen days, the guests were once more at table. After dinner the gardener was announced.
M. Meissonier," he said, "the plants are above the ground
"Oh, this is a little too much," said the great painter, and all went out into the garden to behold the botanical wonder
The gardener lifted up a glass bell, under which was a little bed carefully made, and in which three rows of red herrings were sticking up their heads. The laugh was against Meissonier. He discharged the gardener, but took him back the next day.
A New York man advertises "a safe, quick and reliable corn-remover, without the application of knife or caustics; no pain experienced; price only $\$ 1$." $\Lambda$ young man whonever walks out without wishing he could leave his feet at home, forwarded $\$ 1$, and two days after received by express a live crow.
In Swansea, Wales, during a recent bank scare an old woman drew $\$ 450$ from the savings bank and hid it in a sack. Not long after the sack became filled with wheat and was the gold was at the bottom of it, and rushed frantically frantically after it, reaching the mill only in aloud what ailed the wheat mely wondering aloud what ailed the wheat that it clogged and all the gold recovered, though in a much and all the gold
battered state.

## FOR SALE.

## A horizontal boiler and engine in first-c/ass

 condition. Boiler 15 harse power. Engine 10 horse power. Can be seen running at theRIVERSIDE PRINTING OFFICE, 116 and 118 Grand Avenue, Milwaukee. Also Feed Water
Heater and line of Shafting.

THE UNITED STATES MILLER

## (Continued from first page.)

immigration by the construction of new railroads extending upwards of 700 miles westward from Milwaukee, the volume of grain moving eastward must largely increase from year to year, and a large proportion of that volume will first reach deep water at Milwaukee. The wheat production of the upper Mississippi country, which was formerly the chief source of our wheat supply, has of late years been largely drawn to supply the mills of Minneapolis, which in 1888 absorbed about $19,000,000$ busheis in the manufacture of flour and the surplus wheat product of the country along the Northern Pacific railroad naturally moves eastward via Duluth during the season of lake navigation. The receipts at the latter point in 1883 were $7,655,438$ bushels. But conceding that Duluth will take the bulk of the wheat product of the Northern Pacific country, and Minneapolis that of the upper Mississippi country, there is still a vast em pire of new territory adapted to every variety of agriculture tributary to the great system of railroads extending westward from Mil waukee to the Missouri river and beyond and these railroads will, as surely as the existence of the law of gravitation, carry the principal products of that region seeking the markets of the east, to one or the other o their common terminal points on Lake Michigan. With fair treatment, Milw
The milling business of Minneapolis, which has been the main cause of the decrease in Milwaukee's wheat trade in recent years, begins to give signs of being overdone, and indications are that there will be no important
increase of the milling capacity of Minneapolis in the future. The settlement and tillage of the country is impairing the water-power of Minneapolis, while thedecline in yield and quality of wheat in Minnesota upon lands which have been devoted to its culture for a the supply for the mills from constantly-increasing distances, and under circumstances which must tend to diminish the advantage formerly enjoyed by Minneapolis over other competing points.
The movement of flour at Milwaukee in 1883 was not quite equal to that of the previous year, the shipments aggregating $3,990,596$ bar-rels-257,458 barrels less than in 1882 . The output of the mills was iot that 40 per cent. of their total capacity. The decrease of isfactory condition of the breadstuffs market during the greater portion of the year. The summer and winter hog-packing at Milwau kee, during the twelve months of 1883-84, amounted to 66, , 5 hed is in the preceding period ortworiv. The shortage was mainly in the winter packing and was the direct result of the rairire of the las corn crop. The live stock business comprised 104,078 beef cattle and 93,070 sheep.
The coal trade of the city continues steadily increasing, and Milwaukee is becoming the main depot for the coal supply of the northwest. The receipts of Ohio and Pennsylvania coal by lake were 550,861 tons, and of Illinois coal by rail 61,723 tons in 1883, against 510,493 tons by lake and 83,349 tons by rail in 1882, an aggregate increase of 18,742 tons, notwithof iron during a good part of the year.
The custom-house records show the total arrival of vessels at the port of Milwaukee tonnage of $2,713,878$ tons; the clearances comprised 5,504 vessels aggregating $2,717,586$ tons. A liberal share of the present lake tonnage is Awned or registered at the port of Milwaukee The prevailing rates of freight last season The prevaily profitable notwithstanding adwere conditions of trade.
verse conditions of trade.
The lumber business was comparatively good, though receipts were not quite up to the good, though receipts were not quite up to the
mark of the previous year, which were the largest on record. A new feature in the lumber trade of Milwaukee has recently been introduced here by a company representing one of the largest lumbering interests in the on a large scale for market.
on a large scale for market.
The manufacturing industries of Milwaukee are in a prosperous condition, and are constantly increasing in number and variety. It showing the progress of the city from year to showing the progress in this direction. Visible indications, year in this direction. ment. At the rate of progress made in the last four years, there can be no doubt but that the next census will show Milwaukee to be one of the leading manufacturing centers of the Union. The most important acquisition of the past year was the erection of the nail mill at Bay View (which is practically a part of the city), by the North Chicago Rolling Mill Company, starting with a capacity for making three hundred thousand kegs of nails annually.
Receipts of the Milwaukee post-office, the quantity of mail matter handled, the total
amount of general merchandise received and shipped, and the earnings of the various rail way lines running into Milwaukee, all show substantial increase over the previous year not "booming," there was no general stagnation of business.
The number of business failures in Milwaukee were notably few and unimportant and altogether the record of the year's business can
vorable.
orable.
Several important links have been added to the railway system of Milwaukee, which now extends to every part of Wisconsin, the min eral regions of Northern Michigan, Iowa Minnesota and Dakota to the west and north west, and through Northern Illinois and Cen tral Iowa to the Missouri river in the south west, comprising not less than 10,000 miles of completed railroads having terminal facilitie at this city.
The Members of the Chamber of Commerce who died within the twelve months embrace in the report were Asahel Finch, William Kennedy, W. J. Kershaw, Jos. T. Bradford, Samuel L. Dickens, D. H. Henshaw, Ernst Salomon, Lindsay Ward and Wm. Gerlach. The income of the Chamber from all sources was $\$ 15,73356$, and the total disbursements $\$ 14,74859$, surplus $\$ 98497$, which, with the surplus of the previous year of $\$ 33578$, shows
a balance in the treasury at the end of the year of $\$ 1,3707$
grain cleaning machinery and milling WITH BUHRS.

BY W. AND our object to publicly recommend any partic ular kind of machine, as there are many val

A mill furnished with the above improve acilities, completed with first-class poduc ood, clean white flour, which will sell for good, clean profit.
The Buhr.-Having secured the best improvements for getting the wheat in good condition for grinding, the buhr will naturally demand our attention as being the next machine in the mill requiring improvement. It possible condition, and that condition uniformly maintained. In order to secure this object it should be the first consideration to know that the spindle, step, driver-in fact everything pertaining to the running of and adjusted with the buhr as to insure an even running and standing balance, giving to it a mooth and invariable motion of not more Having made satisfactory everything so far, the buhr is now ready for being put in perfect face, which may be done by getting a bosom to the thickness of three sheets of writing paper, extending out gradually to within 6 inches of the skirt of the buhr. This should be done with a sharp pick and red staff prepared for the purpose. The thickness of one piece of paper will be sufficient bosom or each buhr, after the buhr has been made ready for use. Having done the necessary work with the pick, another thing required to get the buhr in perfect face is, o grind
down with water. This may be done by sus pending a pail of water over the eye of the buhr, allowing a small stream to flow constantly into the eye of discharge at the skirt.
that water has a free dither That water has a free dische required to grind a buhr down to a good face will vary, depending on the condi half an hour to an hour and a half will probably be required.


Thayer's Millstone Dress.
most emphatically, that no mill, we care not what system it may be built and oper. The smallest flour out of dirty wheat. should not be satisfied with anything less than a good rolling screen, which can be set up in any mill at a trifling expense, with fan attachment for dusting screenings. The rolling screen not only scours the wheat by attriion, but it removes from the wheat all sizes very good cockle machine. Next in import ance is required a good smutter; followin the smutter, a first-class brush-scourer. Sometimes the brush-scourer is dispensed with by running the wheat twice through a mutter, while others, to save expense, use but they can never be made to take the place of and do the work of two machines.
The cleaning of wheat is an important part in the manufacture of flour, being of the greatest importance in milling. Many millers do not consider this matter in its proper light. Simply freeing the wheat from foreign substances is not all that is required, but must be removed. In four-fifths of the buhr mills there is insufficient cleaning machinery, and right at this point is where improvements hould commence.
In making these remarks we are actuated by no selfish motive, as we are in no wise connected with the manufacture of any wheatcleaning machinery. We do most earnestly advise the thorough cleaning of wheat. Then wheat-cleaning machinery with middlings cleaning machines, next have the buhr in prime order for making middlings and broad brime

The next move will be to try the face of the buhr, which may be done by the use of the staff and three pieces of paper, and if any
high places can be found, wet them by using sponge, rubbing them down with a buhr block, suitably prepared for the purpose. The face being perfectly true, it is now ready for
the furrows. In our experience we have found that success on buhrs does not depend so much on the kind of dress used. Any good, ordinary dress that is well put in.giving proper proportion of furrow surface, together with the right draft to suit the nature and motion of buhr, with the proper amount of wheat run mon sense way will produce good results. The furrow should be $\pm$ inch deep at ey and $\frac{1}{b}$ inch deep at skirt, and measuring from back of furrow, the draft should be $4 \frac{1}{2}$ inches. This applies to a close texture buhr. The closer the texture of the buhr, provided it will carare they to do goodwork. The man who has a rough open buhr, had best put them to work on and corn feed, for they can never be made a success on wheat. Furrows should be made if possible, as smooth as the face, and should be sharpened the same as the face. This can be done with much better results and at much less expense with the buhr-block and water, never breaking the face of the buhr.
By the adoption of this plan it will be possible to run the Buhr from three to five years without the use of pick or diamond. To those who propose changing dress we recommend twenty-four quarters, two furrows to the quarter, with a little more width or fompany ing. To those contemplating buying new bnhrs we would most earnestly recommend bnhrs we would most earnestly recommend a
thirty-inch buhr, under runner rigid on the $\begin{aligned} & \text { instru } \\ & \text { cists. }\end{aligned}$
spindle; these buhrs are placed in an iron frame, and can be bolted down on the floor in
any position desired, without the cost of an any position des
expensive hurst.
We have long since conceived the idea of making the under stone the runner, rigid and stiff on the spindle. Being fully assured that much better results can be obtained, from the fact of more even granulation. We have a centrifugal force that acts on every particle of grain, following it out from between the two faces of the buhrs the moment it is ground, giving greater strength and color to the flour. The grain, as it enters the eye of the buhr, falls on a live surface and radiates over the ace of the buhr, making a more uniform feed, besides obviating all trouble from choke in the eye of the buhr.

## the last of the mohicans.

Mr. Joseph Lacroix has sold the patents of his father Nicholas Lacroix and E. U. Lacroix to the Geo. T. Smith Middlings Purifier but there are other features in the transaction which places Mr. Lacroix in a very comforted. He is retained by the Smith Company for a period of ten years as an expert in any matter of patent litigation which may come up; furthermore, is to act as a milling engineer and adviser in certain matters pertaining to the business of the Smith Company. It is part of the agreement that Mr. Lacroix is not to take out any patents on improvement in purifiers or centrifugal reels on his own account. This transaction amounts, as Mr . Lacroix expresses it, to "turning himself ver to the Smith Company
Mr. Lacroix started for Europe on the 12th ult. It is his intention to look up some milling matters while there, particularly to see the results of French milling experiments In the latter connection, it will be remembered that the government, under the direct ion of the millers, has buit three experiment al mills, one a full roller mill, another a combination of stones and rols, and the third a buhr mill, all as complete as may be, this being done to save each milling firm trying the experiment for itself, as was the case in this country. Mr. Lacroix will also repre sent the Smith Company whir a ing after the matter of some of their recent patents and theintrodir ry. This part of the busins will also call him into Russia. With this acquisition of talent and tangibinty in the form of patented features, the Smith Company have about
"cleared the decks."--The Millstone (Indianapolis).

PIE-CRUST OR STARVE.
was informed of a famine in Antoinette hood of the Tyrol, and of the starving of some of the peasants there, she replied, "I would rather eat pie-crust (some of the story-tellers say "pastry") than starve."
Thereupon the courtiers giggled at the Thereupon the courtiers giggled at the supposed that starving peasants had such an alternative food as pastry. The ignorance, however, was all on the side of the courtiers and those who repeat the story in its ordinary form. The princess was the only person in the court who really understood the habits of the peasants of the particular district in question. They cook their meat, chiefly made of sawdust, mixed with as little coarse flour as will hold it together; then place this in an oven or in wood-embers until the dough is hardened to a tough crust, and the meat is raised throughout to the cooking point. Marie Antoinette said that she would these croutins, ous that starve, kists, were given to the pigs; that the pigs digested them, and were nourished by them in spite of the wood sawdust.-Popular Science.

## things worth knowing.

Glycerine and Glue.-A German chemist named Pusche, a native of Nuremburg, reported to the trades union of that place that he met with great success in using glycerine together with glue. While generally, after the drying of the glue, the thing to which it is applied is iable break, tear or spring off if a quantity of glycerine equal of the glue be mixed pusere that defect wil entirely disapp. Pur for ming slobe this glue for lining leather, for making globe frames, and form chalk paper. He also used it for polishing mixed wax with the glycerine is not used. The glycerine has also some propertiesin common with india-rubber, for to will rub out pencil ings from paper so as to leave no mark what ever. A paste made of starch, glycerime and gypsum will maintain its plasticity and adhe siveness longer than any other cement, and therefore recommends itself for chemical

THE UNITED STATES MILLER.

United States Miller.




## MILWAUKEE, JULY, 1884.

 land, are authorizer
BTATES MILLER.

We send out monthly a large number of sam ple coples of the ONITED sTATES MLLER to
millers who are not subseribers. We wish them
to consider the recelpt of a sample copy as a
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miller to you for one year.
*The United States Consuls in various parts of the world who receive this paper, will please
oblige the publishers and manufacturers advertising therein, by placing it in their offices, where it can be seen by those parties seeking such information
as it may contain. We shall be highly gratitifed to receive communications for publication from
Consuls or Consular Agents everychere, and we believe that such letters will be read with interest, and will be highly appreciated.

Cawker's American Flour Mill and Mill Furnishers' Directory for 1884, published by E. Harrison Cawker, of Milwaukee,
Wis., and sold for (\$10.00) ten dollars per copy, is
now ready for delivery. It thows the result of an
immense amount of labor, careful inquiry and studious attention to details. It is without doubt
the most accurate trade directory ever published,
and will be of untold value to those desiring to reach We milling industry of America.
We glean from this neat volume of 200 pages con-
taining no addertisements, that there are in the
United States of America and United States of America and our neighboring Dominion of Canada 25,050 flouring mills, taking them as
they go great and small. The work indicates in about 10,000 instances the kind or kinds of power used by
the mills, and the capacity in barrels of flour per the mills, and the capacity in barrels of flour per day
It further indicates cornmeal. buckwheat, rye-flour It further indicates cornmeal. buckwheat, rye-flour
and rice mills. It shows that the number of mills in
the various atales the various states and territories of the United States
are as follows: Alabama t53; Arizona 17; Arkansas are as follows: Alabama 453; Arizona 17; Arkansas
343; California 222 ; Colorado 54; Connecticut 288; Da-
kota 81; Delaware 98; District of Columbia kota 81; Delaware 98; District of Columbia 5; Florida
36; Georgia e31; Idaho 21; Ilinois 1u33. Indiana 1089;
Indian Territory 14; Iowa 790; Kansas 489; Kentucky 713; Louisiana 61; Maine 280; Maryland Ken-
Massachusetts 340; Michigan 846; Minnesota 487; Massachusetts 340; Michigan 846; Minnesota 487;
Mississippi 3s6; Missouri 1025; Montana 21; Nebras-
ka 250; Nevada 13; New Hampshire 182; New Jersey ka 250 ; Nevada 13; New Hampshire 182; New Jersey
42; New Mexico oz; New York 1902; North Carolina
348; Ohio 143; Oregon 145; Pennsylvania 3142; Rhode 348; Ohio 143; Oregon 145; ; Pennsylvania 3142; Rhode
Island 51; South Carolina 274; Tennessee 801; Texas
T03; Utah 110; Vermont 247; Virginia 781; Washington Wyoming 2.
In the Dominion of Canada we find the record as
follows: British Columbia 17; Manitoba $54 ;$ New Brunswick 198; Nova Scotia 102; Ontario 1160; P
Edward's Island 39; Quebec 531. Total 25,050. Taking the work throughout, and it it in highly in-
teresting to all concerned in the trade, and we take Mr. Bierce, of the well-known Mr. Bierce, of the well-known Stilwell \& Bierce Manufacturing Co., of
made us a pleasant call June 13 .
Alderman Hadley, the first president of the National Association of British and Irish Millers, London, England, has failed.

The Chicago Open Board of Trade has running business at the new stand

We think that the wheat requirements of the United States for seed and consumption bushels per annum.

The Milwaukee, Lake Shore \& Western R. R. will be extended through to Ashland,
on Lake Superior, as soon as possible. The
 condition.
Mr. David Wililiams, late head miller for Norris \& Dow at Stoughton, Wis., called on firm he has been with have enjoyed a fairly prosperous year

Austrian millers are making loud com plaints because the government compels them in this country are generally glad to take rest when Sunday comes around.

Judge Harlan of the U.S. Supreme Cour has confirmed the sentence of the lower court convicting Fleming and Loring, of Chicago who ran the great "Fund W" grain swin-
dling scheme. dling scheme
The American Society of Civil Engineers held an interesting session in Buffalo, N. Y.
commencing June 10. A number of valuable papers were read and a resolution passed
asking President Arthur to appoint Mr. Whit
temore, of Milwaukee, delegate to the Inter-
national Standard-Time Conference Sam. W. Tallmadee, of Milwaukee, makes his June estimate of the wheat crop at $516,000,000$ bushels, or $375,000,000$ bushels of winter wheat and $141,000,000$ bushels of
spring wheat. spring wheat.

During the eleven months ending May
31,1884 , breadstuffs to the value of $\$ 144950$ 31,1884 , breadstuffs to the value of $\$ 144,952$, ,
162 were exported from the United States, 162 were exported from the United States
against $\$ 191,425,555$ during the corresponding months in 1883.

IT is a little surprising to us, that more n illers do not introduce the electric light in their mills. Those who have done so are
wonderfully pleased with it. It is undoubt edly the safest light that can be used in a mill

Mill furnishers, manufacturers, flou brokers, exporters and importers of Hlour and grain should have a copy of "Cawker' Directory for 1884 " in their office. It is universally admitted to be the only reliable work of the kind.

We respectfully call the attention of our readers to the special offer of premiums to subscribers, published on page 40 of thi all sections of the United States and Canada have already availed themselves of these offers and they please in all cases. Do not by post office money order, express money by post office money order, express money
order or registered letter. If money is sent otherwise it will be at the risk of the sender.

Dr. Donald Macleod, a Scotch clergy man, recently delivered a lecture upon a
singularly unpromising subject. The title was announced to be "The Sin of Cheapness," and the lecturer proceeded to argue that the craving for cheapness and the hunting after bargains is not only economically false, but a cause of great suffering to thousands of
men, women and children." Dr. Macleod endeavored to prove that cheapness was chiefly procured by the cruel oppression of seamstre
people.

## MILWAUKEE AS A SUMMER RESORT,

Milwaukee is, without doubt, one of the finest summer resorts in the world. It has he reputation of being the handsomest and right on the shore of Lake Michigan, one of the great American inland seas, the temperature is almost always cool and comfortable. There are but few days in summer, and that southwest, when it is uncomfortably warm and such spells are seldom of but few hours duration. In the past few years it has got to be considered the most pleasant manner of quarters summer to obtain comfortable boarding-houses for the season and then take trips to the numerous lake resorts within an hour's or half day's ride by rail on the lines of the Milwaukee \& St. Paul, the Chicago \& Northwestern, Lake Shore \& Western, Wisconsin Central, or Milwaukee \& Northern also on the numerous lines of lake steamer running from Milwaukee to various points in Wisconsin, Michiganand Illinois. Elegant rives about the city, delightful places musement, combined with every convenienc or business, makes this fair city of Milwaukee, with its orderly population of 150,000 souls, a most de

## BARLEY.

There is more barley consumed in the Uni ted States every year than is raised. The
imports and exports for the past ten fiscal years bring out this fact very prominently:


Thus within the past ten years we have used $70,000,000$ bushels barley in excess of what we have produced. The barley is mainly im
ported from Canada. The cost of the 79,317 , 800 bushels barley imported into the United States in the past ten years is $\$ 64,429,700$, or

W. J. S., an experienced roller miller, follows: In glancing over the various milling follows: Inglancing over the various milling
journals I often notice advertisements com-
mencing something like this: "Situation $\mid$ from 60 pounds per square inch to 80 pounds WANTED IN A MILL USING ROLLS." These manipulation of roller mills and the secret f the separations required with a complete roller plant, and yet there are very few that are ready and willing to take the only means of learning them. Few indeed are the millers of many years experience in the old system of stone milling who are willing to take a sub ordinate position in roller mills for the pur pose of learning, but there is no other possile way to learn, and it must be learned well indeed in order to run the mill with profit to the owner. A year's work in a subordinat position is necessary to start with, and thi will only qualify an intelligent miller to ac as assistant to the head miller for at least adder year. The bottom round of the er is the place to start from, and no mil tone milling of how great experience in is duilling, can honestly and properly do ears by his employer without at least two ore occupying the miller in modern roller mills."

## the agricultural returns for june.

The returns to the Agricultural Depart ment for June place the increase of spring wheat acreage at nearly 900,000 , or 9 per cent The Pacific Coast is notincluded. The largest 400,000 acres. The condition of this averages 101, and is up to standard in corly every district. The condition of winter wheat averages 93 , a 75 in June last year, and 99 at the same dat in 1882 . Since the previous report Illinis has declined eleven points. Ohio three. Ken tucky three; Indiana Michigan, and Ken tucky three; Indiana, Michigan, and some other states show a higher average. Those
of the principal states are: New York, 98; Pennsylvania, 100; Maryland, 99 ; Georgia, 93; Tensylvania, 100; Maryland, 99; Georgia, 93;
Texas, 98 ; Kentucky, 96; Ohio, 82; Michigan, 91; Illinois, 76; Missouri, 90 .
The increase in the acreage
The increase in the acreage of oats is 4 per year at same date and 101 in 90 , it was 96 las year at same date, and 101 in June, 1882. The north of the tenth parallel, and up to standard in all the Western States. The general average of rye had advanced from 96 to 97 . The barley average has fallen since The barley average has fallen since May
from 101 to 98 . It was respectively 97 and 91 last year, and in 1882, in June. It is 97 in New York, 90 in Pennsylvania, 101 in Wisconsin, 100 in Minnesota, 97 in Iowa, 100 in Nebraska, ank 90 in California. These states produce usually four-fifths of our barley crop.

## USEFUL NOTES FOR ENGINEERS.

Among the questions most frequently asked of our inspectors when making their ordinary visits are the following, which are of such general interest to engineers as to warrant publication
1st. How much water per pound of coal should be made into steam at 60 pounds pressure per square inch with 60 -inch tubular boilers properly made, well set and carefully fired?
Under the above conditions, from 8 to 10 pounds, dependent somewhat, of course, upon the quality of the coal and the temperature of the feed water.
2 d . How much more coal per pound of water does it take to carry 80 pounds per
square inch than it does to square inch than it does to carry 60 pounds per square inch
This question could with more propriety pe put as follows: How much more heat does it tak $\epsilon$ to make a pound of steam at 80 pounds pressure per square inch than it does o make a pound at 60 pounds per square

Practically, no more coal will be required; heoretically, about 4-10 of one per cent., or about 1-2.0 part more.
3d. Do you get enough better results from steam of 80 pounds per square inch than you do from steam 60 pounds per square inch to pay for the extra wear and tear of boiler and engine ?
Depends entirely upon conditions: If you can make use of steam of 80 pounds pressure it pays to use it; there are conditions, however, where 60 pounds, or ev
4th. How much more heat do you get from pipes carrying 60 pounds pressure than from pipes carrying 10 pounds pressure ?
Two and one-tenth per cent. more heat will be given out per pound condensed from team of 60 pounds pressure than from steam of 10 pounds pressure, in falling from the emperature due to the respective pressure o $212^{\circ}$ Fahr.
5th. What proportion of direct heating
urface to the volume of a fairly protected oom is require volume of a fairly protected of the room at $60^{\circ}$ Fahr. in buildings heated by steam?
From 1-75 to 1-250, according to size and exposure of room.
6th. How much is a given amount of
team reduced in bulk by compressing it

## square inch ? <br> The Locomotive. See any steam table.

## OPTIONS AND PRIVILEGES.

## Not long since a petition was circulated on

 the St. Louis Exchange asking that "option rading be suppressed." We assume that this refers to trading in "futures"-that is buying nd selling grain and provisions for future delivery. This is a very different matter from ealing in "privileges," which we can scarcely Louis recognized as legitimate on the St. Louis Board of Trade, and is in actual violaion of the laws of Illinois. The purchase or contem privilege is a transaction which ontemplates the right to offer or demand a within a given time. As a rule, no actual ransfer of rade is property ever takes place and no in whise. The transaction is really a bet in which one party gives and the other takes very different class of trades when it is applied to actual purchasses and sales for future delivery. This kind of trading is undoubtedly bused in all the commercial and stock ex changes, but it could not be suppressed withThe buyer of grain in business of the country. The buyer of grain in a certain section must ather it in by the wagon-load, while he ells it by the car-load and by consignments mounting to many thousands of bushels. The grain-buyer in the country to-day may tity to deliver ine win have a certain quantity to deliver in Chicago some time next month, but he cannot specify the exact day. He cannot be sure of the date at which he shall have the required quantity collected nor from the day when he can secure transportation from the railroad company. Buthe can safely contract to deliver the grain in June, which gives him a cortain leeway. It is surely a legitimate transaction for him to sell the grain for June or future delivery. Again, the fixing the price for future delivery enables the country grain-buyer to conduct his business on a comparatively safe basis. He ascertains the cost of transportation, estimates all his personal expenses, makes an allowance for his profit, and thus arrives at the price he can afford to pay the farmer for his produce But if the country grain buyer could not sel the property in advance of its collection, his business would be largely speculative, and he would be less liberal with the farmer, for he would reserve a large amount of profit in order to cover a contingent decline in the Chicago market. If he has already sold a large consignment of wheat in Chicago at $\$ 1$ a bushel he can afford to pay the farmer a better price than if he is in doubt when he can sell it, or whether he will get 90 cents or $\$ 1$ for it. In this way sales for future delivery have become essential to the stability of the business of handling crops, and they cannot be abolished without detriment to the grain and produce interests, and especially to the farmers. It is true that a large proportion of the future trades on margins are made for speculation, with the purpose of merely settling the differences at market rates without handling the commodity. It would be beneficial to the country if that kind of gambling could be stopped, but the suppression of all purchases and sales for future delivery, in order to check speculative practices, might be productive of much more harm than good. And it would obviously be unfair to suppress legitimate, bona fide, and useful transactions as a means to prevent gambling transactions. The confusion of the option to deliver at a certain time in the future, and the privilege to make a trade in the future, has led to a popular misapprehension of the board of trade transctions, which ought to be corrected as far as uture Actual sales and purchases, for novement of are important aids to the doned without serious injury to the agriculural classes, the receiving and shipping merchants, the elevators, and even the milling and trade interests, notwithstanding the abuses to which the system has led.-Chicago
## AN ORIGINAL RAT-TRAP

An Illinois correspondent has been successontrivance. This cats with a trap of his own ron pipe with This trap consists of a sheeta strong two-bushel sack tied firmly around one end. Every hole is stopped in the corncrib but one, which opens into a feed-box on the other side of the partition. Then the pipe is placed in the feed-box and fitted, the open end firmly over the hole, allowing the sack to hang over the edge of the box into the manger. The trap prepared, the door of the crib is left open and the rats permitted to have their own way for an hour or so. Then the door is shut and a noise made to scape they rats. Having but one mean of the sack. This correspondent caught twentyseven rats the first time he tried his trap.

## [Written for the Untited Statre Mili.er.]

## by John w. hinton, of milwaukee.

Amerian free trade advocates always try to convey the idea that iron and steel manutunes at the expense of the people-and dodge the question as to whether the iron and steel manufacturers of England do not receive profits and amass fortunes so gigan
In a recent work-" Creators of the Age of Steel," by W. T. Jeans, article "Sir Henry Bessemer," after whom our modern steel and page 128:
"While he was without honor at home, he was not
without emolument. When his patent expired in 1870, without emolument. When his patent expired in 1870 ,
he found that he had received in royalties over a million sterling, or to use his own expression, £1,057,748 - of the beautiful little gold medals which are issued
by the royal mint, with the benign features of her most gracious majesty, Queen Victoria stamped upon
hem.' His Sheffield works were a source of unexampled profft. When the partnership expired it was
found that the firm had divided in profits, during their found that the firm had divided in profits, during their
fourtecn years' working, fifty-seven times the amount of the subscribed capital, and after that the works,
which had been considerably extended at the expense of the revenue, were sold for twenty-four times the
amount of the whole subscribed eapital. They thus amount of alt whole subscribed oapital. They thus capital in fourteen years. In other words, their profits for every two months amouted to as muc

Now the wages paid in England is often less than one-fourth of what is paid in this country. In illustration, Mr. Williams of Youngstown, Ohio, a puddler, appeared be-
fore the committee of ways and means at fore the committee of ways and means at
Washington, and testified that he received when a puddler in England $\$ 1.25$ a ton for puddling; in Youngstown, Ohio, he received $\$ 5.50$ for puddling a ton, or more than four
times as much in this country as he did in England. Mr. Williams worked at the Dowlars works in England where " 15,000 men worked;" he testified, "of all that nnmber he
did not know more than two or three who did not know more than two or three who
owned their homes." In reply to a question, as to "how many women were employed?" "Mr. Williams-They would number from two to
three thousand. The women were employed at such work as unloading coal. They were employed on the
top of the banks or 'tips' (as they were called), and a top of the banks or 'tips' (as they were called, and a
the blast furnace, and in fact wherever a woman did it cheaper."
As to the effect of free trade on wages, Mr Williams said:

I want to impress upon your minds if possible, that wages of working men in America; for just as soon as we come into competition with foreign countries,
where labor is cheap, it becomes utterly impossibl where labor is cheap, it becomes uttery impossible
for American manufacturers to pay the wages that they now pay, and the first thing that occurs is a re tion of wages and live. We had a reduction in the tariff last spring.

## ier and more of

As to the way the laborers lived abroad and in this country, replying to Mr. Kasson
" Mr. Williams-I am glad the gentleman has called
my attention to that. In this country we live about in this manner, that is the general average of working the country who earn $\$ 1$ or 1.50 a day, and of course $\$ 10$ a month for rent, and who gets only $\$ 1.50$ a day has not much left to support himself and wife and
children upon. In the old country I would geta littl bread and butter in the morning and a little tea, and at dinner a little meat, once in a while a piece of pie
and sometimes cake. But these were luxuries that and sometimes cake. But these were luxuries that
did not often come. The workingman in this country who earns decent wages, has for breakfast a piece of and it may be a pie or pudding.
may not have any meat, but he can have pie or cake or something of that kind. I believe that the wealth producers of this country are entitled to that kind of
treatment. The men who are the creators of wealth should enjoy the benefits of that wealth. In the old sometimes denominated rows-long rows of houses-
300 or 400 yards long. I have known fifty houses in a row, and I have known these fifty houses to be
out water-closet accommodations of any kind. "This is the way we look at these matters. Th
any not seem a very interesting address to you. may not seem a very interesting address to you.
am not speaking on theory. I am speaking of the
matter as it appears to us, and as it can be proved and demonstrated."
Mr. Williams stated:
"I and these other gentlemen are here as represen-
tives of the workingmen of that valley who tatives of the workingmen of that valley who are
not only members of the association, but also blastness men generally. Every body in that section of ness men generally. Every boary in that seolish in your idea) He also said

## He also said:

"It depends altogether in Youngstown upon the iron manufactures. If our works are in a prosperous
condition, every other business is booming, and if we are not working, every other business is in a bad

## condition."

The above are the statements of a practical man, familiar, by practice, with labor and its conditions, in both England and the United States. He knows the benefits of protection to laboringmen in this country, and he knows it from practical and experienced contrast, having worked in both countries. Forewarned is forearmed. The chief democratic paper of this state, the organ of the
chairman of the state democratic central committee, let the cat out of the bag when t said, June 3, 1883 :
Time at least, and the time will be thimited to the
a the Chronicle.)
Mr. Williams knows what that threat means, he knows and testifies, that if the tariff is owered "it becomes utterly impossible for American ma
And Mr. Williams, representing before the committee of ways and means," all kinds of labor, knows, as all intelligent workingmen know from experience, practical knowledge, that:
A protective tariff stands at the elbow of every ways, to a more independent condition, and to a
higher development of his faculties. It is the refuge higher development of his faculties. It is the refuge
for his weakness and the bulwark for his strength." Workingmen believe with Adam Smith, that:
made or grown somewhat cheaper abroad, though it should not produce cheapness, does promote the employment of the people; does give them the means
of purchase; does produce plenty-permanent plenty -plenty widely diffused-plenty extending everywhere the the masses of the population; and that the opposite policy, even under the most favorable circumstances, though it should and will create cheap-
ness, will destroy the means of purchase, and inMr. Williams' allusion to
Mr. Wirn af asorable ondition of workingmen in this country as England, is borne out by the remarks of Lord Chief Justice Coleridge of England, who at a farewell banquet in New York, Oct. 11, 1883, said
"It is not your colossal fortunes that have inter ested me, I can see them at home. What I do admire, England, is what may be called your upper and lower
middle classes. I have seen among them men who would classes. I have seen among them men who
wo any capital in the world. I have seen tens of th
$\qquad$ own their houses, and your artisans own their cot
tages. What a state of satisfaction and content thi produces in time of
force in time of war
Republican protectionists desire to main tain and to perpetuate this condition of af fairs. Democratic freetraders desire to de stroy them. The workingclasses at the polls competitors with "pauper Europe and Pagan competitors with "pauper Europe and Pagan their wages shall be maintained at living their
rates.

James G. Blaine says truly:
ective tariff) closely, and in many of the manufac turing establishments of the country, the man who
is working for day wages will be found as keenly live to the effect of a change in the protective dut alv the st
as tected."
for

## the new orleans world's fair building.

BY MAJOR BURKE.
The main building of the World's Industria Orleans, now being constructed, is in many respects, the most in this country. The only larger rected in this country. The only large of natural and industrial products, mechancal appliances, \&c., is the Crystal Palace Suydenham, England. Many of the principal
architects of the North and South engaged in the competition for the plan of this building and a number of elaborate and excellent designs were presented for the examination of the exposition management. After a very careful consideration of all the details of each design, the plan prepared by Mr. G. M. Tor affording the most complete and economic affording the most complete and economic arrangement surprise was occasioned by this choice It was wholly unexpected that an architect in a little Mississippi town would gain a vic-
tory over men who had furnished designs for some of the chief buildings on the continent, Mr. Torgerson was highly recommended by Mr. G. W. Cable, and is a Swede, thoroughly of his profession. A few years ago he located at Oxford, and has so revolutionized the architecture of the place that there are few handsomer cities anywhere. In his plan for has sought to secure one vast unbrock leve for the display in the most compact and ornate form. In this respect he has succeeded
so admirably as to call forth commendatory expressions from the projectors of all former American expositions. He has produced the
largest single room, every portion of which largest single room, every portion of which can be seen from any point without or
The building is 1,378 feet long by 905 feet wide, covering thirty-three acres, or eleven acres more than the main building of the Thiladelpha Centennal Exposition of 1876 , including the gallery. The reader may form
the structure by imagining three ordinary city squares or blocks, one way and five the
other, covered by a solid roof. And if he other, covered by a solid roof. And if he
chooses to allow his fancy to carry him still chooses to allow his fancy to carry him still
further he can picture a monster panorama of the world's industry, extending before his vision uninterrupted by a single object. The roof which is being made in Cincinnati, will
cover $1,000,000$ square feet. The active comcover $1,000,000$ square feet. The active com
mercial rivalry of the different sections is aptly shown by the distribution of contracts for the materials. The window sash comes from Milwaukee, Wis. The glazing will be
done by St. Louis parties. Four thousand done by St. Louis parties. Four thousand
kegs of nails are being shipped from Wheelkegs of nails are being shipped from
ing, W. Va. Nine million feet of Mississippi ing, W. Va. Nine million feet of Mississippi
lumber will be consumed. A massive and lumber will be consumed. A massive
magnificent group in bronze, typical of America, to be placed over the main entrance, is Weing made at Canton, Ohio; also a statue of Washington and Columbus and coat-of-arms of all the States, which will appear in medal
lion form as part of the exterior ornamenta lion form as part of the exterior ornamenta-
tion. Exquisitely modeled cornices are being tion. Exquisitely mod
The building will be 60 feet high, with a tower 115 feet high, and the architect has been unusually fortunate in rendering the A platform will be erected on the tower, reached by elevators, from which visitors may have an unexceptionably fine view of the city of
New Orleans, the Exposition grounds, the Mississippi river, and the surrounding country. There will be one line of gallery extending around the entire circumference of the
building, to which visitors will be carried by twenty steam and hydraulic elevators, repre senting all the manufacturers of these con-
veyances in this country. The music hall, situated in the center of the building, will be 364 feet wide and will comfortably seat 11,000
persons. The platform is being built for 600 persons. The platform is being built for
musicians. To light the building with incan descent lamps will require 15,000 lights and 18,000 horse-power. To light with the ar system will require 700 lamps and 700 horsesteam required for lighting and for machinery hall will be at least 3,000 horse-power. In this estimate is included the power for five arc light the grounds. These are the largest sin le lamps ever constructed. The building wi be in.complete readiness for the reception of
articles intended for exhibition by the middle of August.

## METHODS OF SELLING MACHINERY

Sometimes it seems to be assumed that the best way to sell machinery is by making comin the same line. This plan hardly eve proves a permanent success. Buyers ar good qualities of what they are solicited $t$ buy, but knowing these may be trusted $t$ make their own comparisons. Argument in the way of comparative merit, however honstly meant, is generally looked upon as quite taken for granted that representations quite beyond reason must be made, apparently on the ground that the buyer will make reductions anyhow, and that unless he has high figures to start with he will get his estimate high representations may occasionally be the means of effecting a sale, but not generally. Most of those who are likely to buy, a steam ngine for instance, if not experts in steam ject to know that there are a good many who build steam engines that cannot be improved apon 100 per cent., and it is a healthy pleased with assertions to that effect is increasing. They understand in a general way why the speed of a steam engine cannot be
perfectly controlled, and are not likely to perfectiy statements to the contrary. They know that any machine will wear out, is liable to break down under sumicill and judgment are required to properly handle costly machinery, and assertions to the contrary do not coutnt for anything. Perhaps it would be more statements, and take account of such assertions, by reasoning that misstatements in one respect are likely to be accompanied by misstatements inother respects, which would certainly be
There is probably in these extravagant repesentations not so much an intention to deceive,as there isa desire to keep up the most successful in building up permanent business do cessful in building up permare many, and their number is increasing every day, who want to know exactly what they buy, and such get to facts.

## acts.

conclusion that might be drawn from stock inegoing will apply to those who sel
that run without steam and boilers that make steam without fuel. They deal with another class, and start to sell humbug pure and simple, but because they are successful with the class with whom they deal, honest men should not assume that people generally have come to demand being humbugged. Quite the contrary is true. There wirl always be enough to invest in a railroad to the moon, or ina a rans Atlantic balloon line, but those anxious to do so are not in the majority, and is a mistake for honest dealers to assume that they are
forced to adopt the methods by which such forced to adopt the methods by whic
stock is placed.-American Machinist.

## talian methods with lime mortar.

A correspondent of the Builder gives a few details of the Italian method of making and using lime-mortar which are new to us, and of considerable interest, as are nearly all the particulars of construction as practiced by these skillful workmen. In the opinion of the Builder's correspondent, most of the mod ern Italian processes are identical with those practiced in the same country by the ances tors of the present inhabitants 2,000 years ago and he believes that the good quality of the Roman mortar, which has been proverbial for centuries, belongs equally to that made every day in Naples or Perugia. As every one
knows, the custom among the Italian masons knows, the custom among the Italian masons is, on commencing work upon a new building, o dig first a pit, large enough to contain all the mortar required for the work, into which is put lime enough to fill it, within a foot or wo of the top. Water is then poured in until the pit is filled, and the mixture is left to it self, care being taken only to add water as that first put in is evaporated or absorbed As mortar is wanted, a portion of the lime is aken from the top of the mass, but the lowe portion, which will be used to mix with the plastering mortar, remains undisturbed for ears and acquires a smooth, pasty quality much prized by the Italian architects, who place a value upon the lime which they use for such purposes proportionate to the length of time which has elapsed since it was firs lacked. The good effect of this mode of pre paration is seen in the perfect stability of the nortar, which never swells or cracks, and when used in brick-work or stone masonry, is ever observed to give rise to those disfiguring efflorescences which are almost inevitable with us. On plastering mortar thus made there is no difficulty in laying the fresco colors which are used in Italy with such splendid ightly patches when laid upon our raw, half lacked mortar.
With lime treated in this way work can be executed which would be impossible with such materials as we employ. As an instance of the battuto roofing which is constantly used to cover costly and important buildings in Southern Italy, and which consists simply in a thick oating of lime mortar spread over the timber or ten days or continually with heavy clubs ate it. The climate of southern Italy is rainy, if not cold; but these roofs, which if made of ransmit water like a sponge, serve there to protect for centuries the house beneath. The same kind of work is used for floors, taking the place which would be filled among us by cement-concrete, and the beaten lime floors, that we construct with much more costly materials. That this difference in quality between our own and the Italian mortars is due to the mode of treatment rather than the riginal character of the lime used,is indicated limestone fact that many different varieties of circumstances of locality or convenience without any material variation in the resultthe Italian workmen having learned that art which we care so little for, the making the best of poor or indifferent materials.-Ameribest of poor or
can Architect.

The developmemt of wheat culture in A merica has beendecidedly progressive since 1868, as the following exhibit, which also
embraces our annual exports during that period, shows:

## 1876--NINTH YEAR OF PUBLICATION--1884.

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THE UNITED STATES MILLER.

## the casting of the largest cannon made in the united states.

The improvements in the construction of eavy ordnance have been quite marked during the past few years, and profiting by ecially for coast defense, cre mow of far more strength and durability, and of reater projecting power, than those in service during the late civil war. In the fulfillment of a contract, recently made between the United States Government and the South Boston Iron Company, there was cast yester day afternoon at the foundry of the latter day aterst ane larger country. The preliminary work necessary to the casting of a gun of any size is considerable, and requires to be done by skilled hands, for the slightest imperfection will seriously interfere with the usefulness of the gun itself when completed. In the uppe portion of the ordnance foundry of the South Boston Iron Works is a large pit, which is always used when guns of any size are to be cast. This pit is about forty feet deep, and
a dozen feet wide, built in a circular form a dozen feet wide, built in a circular form,
the outside being of large iron plates riveted the outside being of large iron plates riveted
together, and as there is only a depth of about twelve feet to tide-level. these plate have to be anchored down to keep them in position, and to withstand the pressure of the water. Next to the iron plates is a brick wall twelve inches through, and inside of
this a thick layer of cement and sand. This this a thick layer of cement and sand. This
pit originally cost $\$ 6,000$, and to make it pit originally cost $\$ 6,000$, and to make it
available for yesterday's work it had to be made deeper, and a number of other altera tions made. Into this had been placed fo the casting what is termed a flask or circular mold, which is made in sections, and consists of an exterior body of iron, with a layer o sand and cement on the inside, about six inches thick, which is covered with a com position of blacking. In the interior of the flask, which was about four feet in diameter was placed the core, consisting of a long layer of rope, and over this a thickness o sand and cement. Into the interior of this core, during the casting, cold water is run in by a pipe down one side, and forced out boillocated on the other side. of which yester day contained about thirty-six tons of jron which, at 4 o'clock in the afternoon, after having been subjected to an intense heat for twelve hours, had been reduced to a molten mass. Connected with each of the furnaces wet metal to a large iron tank a few feet from the pit known as the pool or mixer, and from the pit, known art troughs ran into the flask On invitation of President Hunt of the company a select party of gentlemen were present to witness the event, among whom were Collector Hunt, ex-United States Sen-
ator Barnum, Senator Miller, F. B. Cotton ator Barnum, Senator Miller, F. B. Cotton
and W. E. Coffin, President and Treasurer of the Pembroke Iron-works, Chief Engineer D. B. Macomb, Capt. E. P. Wyle and Capt. E. P. Lull,
Navy Yard.

At a few minutes past 4 o'clock it was announced that everything was in readiness. Superintendent Asbrand and Foreman Woods took their positions near the pit, and the begrimed workmen, with ladles in hand, arranged themselves on each side of the troughs and near the flask. Each one was silently and patiently waiting, when, at $4: 24$ o'clock, the foreman sang out, " Let her go," and immediately from each of the furnaces there came a stream of molten iron which threw out thousands of sparks in every direction, and to the beholder in the further end of the gloomy surroundings of the foundry ebration on a distant prominence. The hot mass ran into the flask with a seething noise, and to the observer who dared to gaze into the depths of the flask it seemed as if one was, indeed, looking at a veritable lake of fire. During the filling of the flask the scene was quite novel, the dusky forms of the workmen, as they hurriedly moved to and fro, being in strange contrast to the bright golden color of the hot iron, while the silence of the assembled company, and the low, quick orders of the foreman, gave evidence of the
importance of the work. At the end of importance of the work. Alask was filled to the brim, and those in charge announced that, as far as it had gone, the casting had that, as far as it had
While the iron is cooling the stream of cold water will be kept running through the core, and a wooden fire will be kept burning outside and all around the flask. The core will sufticiently, and the latter will probably be in a condition to be worked upon by Tuesday in a cont. This casting was made with the breech up, and in order that the gun may be perfectly strong the mold is constructed about five feet longer than what the gun is intended to be finally, and the part not wanted is cut off. When completed it will be about thirty
feet in length, of 12 -inch rifle, weighing 212,000 pounds, and worth $\$ 28,000$, about half the
sum that a steel gun would have cost. It is sum that a steel gun would have cost. It is miles. The last large gun made by the South Boston Company was in 1877, when a gu was cast which weighed 90 tons. This com pany is also under contract to furnish to the United States a 10 -inch wire-wrapped cas ron rifled gun, a 12 -inch rifled mortar, and another gun similar to the one cast yesterday but shorter. Before being accepted by the Government, each gun has to be submitted to a critical test by the proper inspectors, and if not perfect, it is rejected.-Boston Adve

## Why wheat is low in price.

In a special report upon the production of grain in the United States, J. R. Dodge, statis cian for the Department of Agriculture, say was $48,000,000$ bushels less than the production which increases the supply the present year o onsumption to $468,000,000$ bushels. The re quirement for consumption, on the basis of a population of $55,000,000$, is $259,000,000$ bushels for seed about $53,000,000$; or $312,000,000$, exclu sive of exportation. The exports from July 1 1883, to Feb. 29, 1884, were $71,321,539$. If con tinued at no greater rate of shipment, the exportation of the year will not exceed $97,000,000$ bushels. This would make the distribution $09,000,000$ bushels, while the estimated pro uction was $420,000,000$, exclusive of the su plus of the crop of 1882 . This leaves an ade quate supply for any probable emergency. If we take the results of the March investi gation, we find $119,000,000$ bushels in the hands of farmers and $31,000,000$ in elevators and
warehouses, or $150,000,000$ unmilled, in addition to the flour in mills and on the market The spring wheat requirement for seed is not above $15,000,000$, and a possible export of 35, 00,000 will then leave $100,000,000$ for bread distribution. The wheat of the South will be ready for milling before half the available supply is consumed.
An erroneous impression has been derived from the fact that the European crops of last year. as estimated, were less by $78,000,000$ bushels than the average production. But the product of 1882 was $126,000,000$ above that verage, giving an excess of $48,000,000$ above eight years.
The statement is as follows:
Bushels.
Annu
Annu
Annu
Annual average, 1882

| $143,828,044$ |
| :--- |
| $, 270,167,150$ |

To this excess of $48,000,000$ add $48,000,000$ bushels surplus in the United States in 1882 nd increased production in India, and it wil of the world have been glutted during the las year. To gather in the surplus of 1882 and carry it half around the world, and place it on the market, run it through the mills and sumption, requires time, and gives to 1883 sumption, requires time, and gives to 1883 Some idea of the trustworthiness of thes estimates may be gained from the fact that in a period of six years ended with 1882 the estimates of the Department of Agriculture regarding the production and the total distri bution of wheat, for food, for seed, and for bution of wheat, for food, for seed, and for
exportation, varied from the ascertained facts only $27,657,200$ bushels. No more satisfactory result of the test of six years' calculations, on the same basis could be desired. The only change in rate of consumption is the reduction the year of scarcity and high prices.-Chicago Tribune, May 31

## CHILLED IRON ROLLERS

Chilled iron is a form of cast iron with surface as hard as flint. When molten iron i poured intómoulds which are made of good heat-conducting material, such as iron, steel \&c., then the surface of the cast which come into direct contact with the mould, forms a exceedingly hard layer. This is due to the fact that on account of the rapid cooling, the car bon does not separate as graphite, but remain chemically incorporated with the surface of the cast. Such products we know as chilled iron.
The rollers for mills are cast in drilled cast iron cylinders, and are therefore chilled on their entire surface, which hardness decreases towards their centre, and as a consequence they can be hollowed with ease. Theoretically the ingly simple of chilled iron appears ex difficulties, depending largely upon the chemica composition-and proportion of iron, of the temperature and thickness of the walls of the mould and many other conditions.
The exceedingly small amount of wear of the surfaces of the best chilled rollers, recommends their use very strongly for milling purposes as compared with stones. In smooth rol lers this wear is almost nothing, and even in
grooved rolls it requires many months, even
years, before any sharpening is necessary.years, before any sharpening is necess
Muehlen \& Maschinen Industrie Zietung.

## MEASURING STANDING GRAIN.

An officer in the English navy has constructed a table for estimating, with all needful and before it is harvested wheat on an acre of me made as soon as the grain is ripe. Make a wood or iron frame one yard square, carefully et it down over the standing grain, and then shell and weigh all the grain grain, and the shell and weigh all the grain on the straws
belonging inside the frame. If a circular "crop form," as he calls it, is more conve ient, make it 6 feet $9 t$ inches in diameter mifere it 6 inches in diale of half-inch iron. From
we extract the following:

| 8 bu. per acre. |  |  |  |
| :---: | :---: | :---: | :---: |
|  | oz. per sqr yard | equals | 12.60 bu . per acre. |
| $23 / 4 \mathrm{oz}$. per sqr. yard equals 13.86 bu. por |  |  |  |
| 3 oz . per sqr. y |  |  |  |
| $31 / \mathrm{oz}$. per sqr. yard equals 17.65 bu . per acre. |  |  |  |
| oz. per sqr. yard equals 20.17 bu . per acre. |  |  |  |
| 5 | oz. per sqr. yard | equals | 25.21 bu . per acre. |
| $\frac{1}{4} \mathrm{oz}$. per sqr. yard equals 29.00 bu . per acre. |  |  |  |
| 6 oz. per sqr. yard equals 30.25 bu . per acre |  |  |  |
| 7 | oz. per sqr. yard | equals | 35. |
| 8 |  |  | 40.33 bu. per ac |

These estimates are on the basis of 60 lbs per bushel. The $2 \frac{1}{2}$ ounces to the square yard is about the average yield of wheat per acre in America; the $5 \frac{9}{4}$ ounces per square yard is the average in Great Britain.
he American Glucose. The commercial samples of liquid starch sugar, or "glucose," examined by a commit-
tee appointed in the United States to investigate the subject, were found to contain from 34.3 per cent. to 48.8 per cent. of dextrose, 0 to 19.3 per cent. of maltose, 29.8 to 45.3 per cent.
of dextrin, and 14.2 to 22.6 per cent. of water. of dextrin, and 14.2 to 22.6 per cent. of water
The samples in solid form-"grape sugar"ranged in composition from 72 to 73.8 per cent of dextrose, 0 to 36 per cent. of maltose, 4.2 t
9.1 per cent. of dextrin, and 14 to 17.6 per cent 9.1 per cert. of dextrin, and 14 to 17.6 per cent
of water. Three specially prepared sample of "grape sugar" contained respectively 87.1,
93.2 and 99.4 per cent. of dextrose, the last 93.2 and 99.4 per cent. of dextrose, the las
being "crystalline anhydrous dextrose." The ash in the "glucose" varied between 0.335 and 1 per cent., and in the "grape sugars" be
tween 0.335 to 0.75 per cent.

## NONSENSE.

"Yes, indeed," said the high-school girl to her brother Jim. "In this affair I obtained quired the gibon "Oby." You did what?" in protuberency, you know." "Is it anything good to eat?" was the next question. "O dear what you call the 'got the bulge,' only that is horrid slang.
A little French boy awakened his mother arly, the other morning, to ask her what Go mouth. "My child," replied the mother half asleep, "God is everything-the heavens -the infinite-everything that you can't un--the infinite-everything that you can't understand." "Then," said the child, " God
must be an American, for there are some little American boys at school and I can't derstand them at all
Jim Webster, a hard-looking colored man, was brought to a justice in Austin for stealing some money from the house of Col. Jones, he judge, very impressively to Jim: "Don't you know that no good can come of stole money-that there is a curse on it?" "Boss, I didn't know Col. Jones stole dat money. I allus 'spected him ob bein' an hones' man White folks am gettin' to be mighty onreliable nowadays."-Texas Siftings.

An old bachelor recently gave the following toast: "Women-the morning star of our infancy, the day star of our manhood, the evening star of age. Bless our stars, and may they always be kept at a telescopic distance.
They were very fond of each other and had been engaged; but they quarreled and were too proud to make it up. He called a few days ago at her father's house-to see the old gentleman on business, of course. She was gentleman on business, of course.
at the door. Said he, "Ah! Miss lieve. Is your father in?"
"No, sir," she replied. "
"Did you wish to see him not in at pre
Did you wish to see him personally?
"Yes," was the bluff response, feeling that
she was yielding, "and very particular per-
go away.
I beg your pardon," she called after him as he struck the lower step; "but who shall I
say called?" He never smiled again. This say called?" He never smiled again. This was too cruel.
The United States Navy.-"CommoWalker last Monday morning, "how man boats have we in the navy?"

Four," replied the Commodore.
What kind are they?" inquired the Seere tary.
"We have a canoe that is being repaired batteau, which is also being repaired; a
skiff in good condition; and a dug-out that skiff in good condition; and
has four holes in the bottom.
"How many guns do they carry?" contin ued the strong man of the Cabinet
"How many what?" repeated Commodore Walker.
"Guns," said the Secretary.
"Guns, guns-why, what are guns?" queried " Things
Things that are loaded and go off," replied Mr. Chandler
"Well, Mr. Secretary," said Commodore Walker, with a puzzled expression, "the only things I know of in the navy that get loaded and go off are the officers,'
Secretary Chandler discontined the conver sation.-Washington Hatchet.
Plenty of Room at the Top.-"It's no wonder Ohio raises so many great men said a passenger from Buckeyedom. "I used to passenger from Buckeyedom. 'I used to
teach school in Butler County, and one day a director came to me and said: 'Now, Mr dones, we want to make something out of our Jones, we want to make something out to rise
boys; we want 'em encouraged to try in life. Point out to 'em the great possibili in life. Point out to 'em the great possibin
ties there are for even poor boys. Tell 'em ties there are for even poor boys. Tell 'em,
in the language of Daniel Webster, there's always room at the top.' I promised and did as I agreed. It was wonderful to see the effect it had on the boys. I was sure they would rise in the world if they only had half a chance And my predictions have been verified

Tell us how they turned out, won't you." " Well, Tommy Jefferson Smith inherited his father's farm, speculated, made money, went to New York and made quite a stir in Wall street. Now he's keeping a lemonade
stand on Mount Washington. Jimmy Buchanan Cook always wanted to be a statesman, and so he went to Washington. The ast I heard of him he had a job carrying mortar to the top of Washington Monument. Andrew Jackson Murphy had an ambition to be a big manufacturer, and he went to New
York too. His wife takes in washing to support him and dries her clothes on the roof o ten-story New Y ork tenement house. Sammy Adams Brown went West to deal in stock, got caught in one of his transactions, and was hanged at the end of a telegraph pole. And there was Charley Foster Fosdyke-what beambition to be a clown in a circus. One day he tried to climb a greased pole, fell from the top and broke his tarnal neck. I have always believed that early education has a good deal
The high-school girl's brother told her a THE high-school girl's brother told

What is the difference between shooting man and killing a hog
The answer was
One is assaulting with intent to kill, and e other is killing with intent to salt." When she met Amy she propounded the "Well, I'll tell you," said Mildred, "

Well, I'll tell you," said Mildred, " one is assaulting with intent to deprive of life, and the other is killing with intent to preserve in brine."
And Amy failed to see the point
They have sociables in Iowa where the lady is weighed before entering the diningroom and also directly when she leaves it and her escort pays fifty cents per pound for the increase in her weight. This calls to mind the old story of the western railroad eating house which adopted the same plan One summer day a shrewd drummer prepared himself for the meal by filling his coat pockets

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celain (Rolls
for Oruhing and mor fingatang
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Warehouse Receiving Separator, Grain Separator

## WHEAT SCOURERS,

Wheat Brush Machines, upbiat and horizontal bran dusters, 4CENTRIFUGAL FLOUR DRESSING MACHINES. 7 -

 [Please mention this paper when For descriptive catalogue.

[^4] MILLERS
The crowning event of the season so far at Minneapolis occurred June 21, when the operative millers, with their wives and chilren and sweethearts, het at the depot for fun. The excursion was gotten up under the fun. The excursion was gotten up under the
auspices of the Head Millers' Association of Minneapolis, and every one who is in the slightest way connected with the milling inslightest way connected with terest in the city was invited to attend. All the mills in Minneapolis were shut down in onor of the event
Three passenger trains, thirty-nine coaches in all, conveyed the excursionists to the lake. There were at least 2,500 people aboard, and many came out on the afternoon train who were unable to be present in the morning. The trains reached the Lafaytte without ccident. Danz's band was in attendance and played some inspiring airs as the people alighted from the train. The Lafaytte or chestra also played a welcoming air. Among the excursionists were to be seen several of the most 'prominent millers of Minneapolis, Ex-Gov. John S. Pillisbury, Mayor Pillsbury, Fred. Pillsbury, John Crosby, C. M. Harden burg, Loren Fletcher, A. M. Hubbard, W. F Cahill being of this number. There were millers, packers, coopers, mill furnishers, an great number of women and children.
The Milling press was represented by W.
Edgar, of The Northwestern Miller, T. E.
C. Edgar, of The Northwestern Miller, T. E.
Hale of The Millstone, and E. Harrison Cawker, of the United States Miller.
Assembling on the veranda of the hotel, Mr. Charles McC. Reeve of Minneapolis, the orator of the occasion, was introduced by the president of the association, Hon. Matthew Walsh, in a neat address. After a short and witty introduction in which he modestly claimed not to know anything ab
Mr. Reeve continued as follows:
I will call your attention, ladies and gentlemen, during the past few years in that magniflcient industry over which these head millers preside; a pro-
gress which in results surpasses the wonders evoked gress which in results surpasses the wonders evoked
by the fabled lamp of Aladdin, and which has brought to the coffers of the Minneapolis millers riches you will gaze for a moment on the emaciated visag and tottering form of the venerable president of this association, it will not require much stretch of the
imagination to believe that he is the oldest head mil ler in the Falls. His career of usefulness dates back
to 1865 to when he did the brain work for the old Cataract mill, four run of stone. 150 b barrels daily
capacity. The total capacity of the mills at that time capacity. The total capacity of the mills at that time
was 400 barrels per day, and they manufactured but one grade of flour-a straight brand somewhat insold for pig feed, and the bran spouted into the river.
And from this time, I am informed, arose the first complaint from our friends down the river that the Minneapolis mills were obstructing navigation by
spouting sawdust into the river; and from that day to this they have never been able to tell the difference. In 1887 the Washburn "B" was built. It was
a proud day for Minneapolis when its machinery was a proud day for Minneapolis whenits machinery was out 700 barrels of flour. The news was flashed faran wide over the country that Minneapolis possessed
the largest flour mill in America: and I have it from a most reliable source that one of the honored members of this association gave up a lucrative position
in another mill and worked as roustabout in the Washburn, for the mere sake of saying that he worked in the biggest flouring mill in the United
States. So matters ran along until 1872 , when E. U. La Croix, a Frenchman, invented a middlings purifler, which was first tried in the Washburn C. It was a
crude affair, without conveyor or mechanical device for cleaning the cloth, but it was a success, and al-
most immediately it was in the Cataract, Zenith and most immediately it was in the Cataract, Zenith and
the old Taylor mill, which stood on the site of the pillsbury B. La Croix afterward invented a conveyor, and George H. Christian and George T. Smith
further modifled and perfected the puriflers, until it further modiffed and perfected the purifiers, until it
was substantially as used to-day, although some miwas substantially as used to-day, although some mi-
nor improvements have since been made. At least seventy men have claimed the invention of the belongs the honor and credit of one of the greatest inventions of this inventive
in the markets of the world
manufactured largely from cattle feed. But it was
good for all that, good enough to eat, and the mills good for all that, good enough to eat, and the mills
could not supply the demand. How to make a larger could not supply the demand. How to make a larger
per cent. of patent flour was the question. Then
some far-sighted millers tried the Hungarian roller process in the Washburn "A." After some few dis--
couragements, the rolls proved to be espectally adapted for the handling of hard Minnesota wheat, on the prinoiple of gradual reduction, obtaining the
largest possible percentage of high grade flour. So largest possible percentage of high grade flour. so flour by the use of rolls that the straight flour of today is equal to, if not better than, the best patent of
1872. Is it to be wondered at, in view of these rapid strides towards perfection, that the product of our mills has increased front 400 barrels per day in 1865
to 25,000 per day in 1884, consuming 129,000 bushels of wheat dailly, and requiring 300 cars to move the daily product? And during all these years, day in and day out, in summer's heat and winter's snow, in the glare of noonday and the quiet watohes of the night, have the dusty millers with unflagging interest and cease-
less care watched the machinery as it moved, noting less care watched the machinery as it moved, noting
defeets, correcting errors, constantly suggesting ehanges and furnishing the ideas and groundwor
for those improvements, the meehanical details which have been worked out, perfeeted and, I grieve to say, patented, and the proceeds pooketed by me
almost as ignoraut of milling as myselr almost as ignoraut of milling as myself.
And now, in conolusion, a fev words
the organization under whose auspices we meet to day. Its existence dates back two years, and it com-
head millers are honorary members. Its object is the advancement of the seience of milling, combined
with soctai and benevolent features. But all queslons of business and the relation of employer and proper that such an organization should exist here, for here has been the school from, which have grad-
uated men of unsurpassed attainments as head millers, and among them James McDaniels and
Charles Holt, those head millers in the two largest flour mills of the worid. As Athens was the seat or Minneapolis the center of all the most advanced day is concerning the great industry which is the pride and
boast of the Northwest. with the boast of the Northwest. With that sagacity which is
one of the prime causes of their success, the mill of the ho this city, but their liberal compensatio that spirit of inquiry which has resulted in the gratifying and world-wide reputation enjoyed by Minne apolis flour, a reputation which no other locality has
been able to equal, although supplied with the same wheat and the Head Millers' machinery for grinding it. But mutual improvement and scientifle advancement,
their efforts are now directed toward the accomplishment of a kindlier and more sacred end. No monu ment marks the spot where the brave men who on
that fatal 2d of May, 1878 , were ushered without a And so this association propose by of their maker excursions and such other means as lie in their power,
to raise funds sufficient for the erection of to raise funds sufficient
comrades and co-workers. Their best effort they will bend in this direction, feeling doubly sure that their friends in Minneapolis will not fail to respond nobly
when called on to do in behalf of such an objee To-day is a day of pleasure, friends all unite to make
it a day for memory to cherish, an oasis in the dreary desert or
no alloy

MAYOR PILLSBURY'S REMARKS
Mayor George A. Pillsbury was loudly called for, and responding to the invitation of the president, said he did not know why he should be asked to speak at a head millers' picnic, unless it was because his name stood at the head of the milling company which he represented. He was not a head miller, and perhaps did not know as much as he should about that part of the business. He was glad the millers of Minneapolis had this opportuand enjoy themselves at Minnetonka, and he hoped they would all have a gloriously good time. He could speak for the rest of the mill wheirs, that they were very glad to shut down demonstrand give an opportunity for this Minneapolis now stands at the head of the flour industry of the world. Not only does it yield the most and the best flour, but the one other city-Buda Pesth. Hungary-can compete with it. There is reason to be proud of the three great mills of Minneapolis-the bury " other three in the world. Much of this sue ess the speaker ascribed to the sagacity and faithfulness of the head millers. Mayor Pillsbury's remarks were enthusiastically applauded.

THE DAY'S PLEASURES
After the speeches the excursionists scatered about the premises according to their ndividual inclinations. A game of base ball was played in the rear of the hotel between
nines from the Washburn and Pillsbury mills, esulting ine Washburn and Pilsbury mills, atter. There was also dancing in the pavilion. Most of the party had brought their own dinners, and not the least interesting feature of the day was the basket pienic, of the hotel, and in the pavilion. The Belle of Minnetonka made frequent trips, and most of those present availed themselves of this opportunity to take a ride on the steamboat some time in the day. The steamer City of St. Louis made her first trip for the season 2 o'clock a sack race of 100 feet, between head millers was called. James McDaniels, Charles G. Hoit, Matt. Walsh, Thomas Scott, James Tam, Fred Zimmerman, Tree Stevens, C. N. ler, John T. A. Baker, Thomas Cant, E. Stahliam Helforth and William Lockerbie were the contestants. The signal was given and the men in sacks plunged forward, but most goal was reached. Matt. Walsh, president of the association, took the first honors, Thomas Scott second, James Tam third, and E. Staher fourth. Next followed the packers' foot ace, 300 feet; prizes by the Northwestern MillBader, P. N. Cardoze, M. O'Meara, Patsey McNamara, Frank Kugler, Thomas Scott, C Thayer, John Zimmerman and Angus Chism Chism took the first prize O'Meara second Cordoze third. Time 191 seconds. The en tries for the tub ree w. Northwestern mill. W. Halliday Zenith, F. E. Hardenburg, Crown Roller, Wallace Mitchell, Galaxy; Owen Agnew, Humboldt; Charles Agnew, Añehor; L. Magison, Pettit; Charles Orrington, Washburn "A"; Joe Hall, Washburn "B"; John Dahl, Washburn "C"; S. P. Madden, Standard. F. E. Hardenburg

## took the first

The day passed off harmoniously. The ex cursionists took the train for Minneapolis 5.30, where they arrived without accident.

Youtell us that we are cramped and crippled because we do not enjoy the blessings of free trade; that we should throw away ourown market, which is a good one, in the vain quest of
foreign markets now sadly overcrowded. Let foreign markets now sadly overcrowded. Let
us briefly consider that for a moment. Engus briefly consider that for a moment. Eng-
land has $40,000,000$ of cotton spindles; this land has $40,000,000$ of cotton spindles; this
country has $12,000,000$. Of the $40,000,000$ of country has $12,000,000$. Of the $40,000,000$ of
spindles of England at least $28,000,000$, are spindles of England at least $28,000,000$, are
running at a loss, $2,000,000$ have stopped $8,000,000$ of the remaining $10,000,000$ may possibly be holding their own. Of this balance a few of the newer mills are possibly turning a profit, although their markets, which are the markets of the world, are glutted and overburdened. This is no matter of fancy. Every
trade report, every commercial paper, the distrade report, every commercial paper, the dis-
patches of every day announce it. patches of every day, announce it. Depres-
sion exists all over the world unparalleled, vastly greater than with us. The metal industries of England are no better off. Scores of
furnaces in Wales are blown furnaces in Wales are blown out, waiting cus-
tomers for their iron. The silk industries of England are waning; her operatives are striking on every hand. She is suffering from great depression, much greater than exists in this country; yet she has free trade. You ask us to abandon our markets to the competition
of English pauper labor in exchange for markets already overcrowded,to compete in which our labor must be reduced to their level.-
Extract from Speech by Hon. Jonathan Chase.

## NEWS

Isaac Otis
ity, Minn.
The Farmers Ele
Haynes Bros., of Shell Rock, Ia, offer their 4-r
Burned.-June 5 , the Beloit, Iowa flour-mills.
Mr. F. S. Hoag is contemplating the erection of
Hayworth's flouring-mill at Winemac, Ind.
burned on June 4. Loss $\$ 3,000$; insurance $\$ 2,500$,
Charles Barnes' flouring-mill at Clay Centre, Kan
burned June 1. Loss $\$ 40,000$. Insurance $\$ 17,500$.
Frank Nicolin's Sand Creek mill, at Jordan, Minn.,
burned May 25. Loss on mill and stock $\$ 55,000$. surned May 25.
surance $\$ 42,000$.
The elevator at Dakota, Ill., belonging to Jacob
Williams, grain dealer, etc, Freeport, III. has
The Whitehall Mill Co., at Whitehall, Wis., have concluded to offer their 5 -run water-power custom
and merchant mill for sale. Burned.-The oat-meal mill, owned by the Galt
Milling Co., Galt, Ont., June 4. Cause unknown.
Herman Berkholz, proprietor of the "City Mill," Rook Kapids, Ia., has been
His wife is suspected.
Burned.-June 9, the Grove City Mill at Litchfleld,
Minn. Mill was operated by A. P. Stark \& Co. The american Oak Leather Co., of Cincinnati, 0 .,
are rebuilding on a larger scale than ever. They One hundred and fifty millions of eggs were imported into this country during the year ending June
1,1884 . Canada sent us $\$ 1,200,000$ worth of eggs in
The grist-mill and grain and hay store of W. Rieppe, at Charleston, S. C., on the north side of George
street, was destroyed by flre on June 1. Loss $\$ 4,000$; Cain, Hanthorne \& Co's new 250-barrel, steam-powe Houring-mill at Atchison, Kan., has started up and
gives entire satisfaction to all concerned. Nordyke Marmon Co., took the coutract
The Milwaukee Dust Colleetor Mfg. Co. hav
ecently fitted up Saxton \& Thompson's large mill Lockport, N. Y., and also Geo. T. Chester's mill of the
The new "Novelty Flouring Mill," at Rockport,
Ind., owned by L. A. Niblack, has just been completed and is now running nicely. It is driven by steam power and has a daily capacity of 120 barrels. The
contract for building this mill was awarded to $\mathbf{W}$. $T$. Pyne, of Louisville, Ky
Stark's grist-mill, at Paisley, Canada, was burned tity of flour was ane 2. Nothing but a small quanwheat was destroyed. Loss at least $\$ 20,000$.
building and machinery was insured for $\$ 17,000$. , the Lanier Mill Co., Nashville, Tenn., for regrinding and recorrugating thirty-eight rolls. Messrs. Allis orders for this work with the utmost dispateh.
The Beloit Mills, near Canton, Dak., comprising one large, four-story grist-mill a and one woolen-mill,
were destroyed by fire on June 5 . The fire was were destroyed by fire on June 5. The fire was of in-
cendiary origin. Loss $\$ 30,000$, with no insurance. The property is situated two
D. Narracong, of Evansville, has given his order or a complete mill, with eight pairs of rolls, to the Case Mfg. Co.; J. R. Gebhart \& Son have ordered two Vermont, Ill., have ordered four pairs Case rolls, No. 1 double purifler, and Case centrifugal.
The Cummer Engine Co., have Just fur
Manc申ester, N. H., and a 67 H. P. engine to Messrs.
Stulta \& Kile, of Orwell, O. Orders have reently
been reeeived for a 55 H. P. engine, with complete
one of 35 H. P. for Cariton, Foster $\&$ Co., Oshkosh,
Wis., and a 55 H. P. outfit complete for A. Dietly \& Wis., and a 55 H. P. outfit complete for A. Dietly \&
Son, Moorheadville, Pa. The Cummer Engine Co are also meeting with. great sucumess in introducing
their Ballentine ice and refrigerating machines in reweries, packing-houses, ete.
Salt manufacturing in Michigan depends almost en
rely upon sawdust and refuse slabs tirely upon sawdust and refuse slabs. Representative
Horr testifled before the Ways and Means Commitlee, that but for the refuse of the lumber mills used be made in Michigan
The Geo. T. Smith Middlings Purifler Co., of Jack-
on, Mich., have recently purchased the patent owned by the La Croix Purifler Co., of Indianapolis, ind. The number of purifler patents now owned by company in both puriflers and centrifugals is con-

The following well-known millers lately sent in
heir orders for the Cone Shape Becker Wh $\sim$ at Brush. their orders for the Cone Shape Becker Wh-at Brush,
made by the Eureka M fg. Co., of Rock Falls, Ill. Ashland Mill Co., Ashland Mo.; Sessinghaus Mill Co G. Forston, Lawrenceburg. Ky; ; L. M. Jackson,
Nicholasville, Ohio; M. P. Bewley, Fort Worth, Tex., J. H. Danielson, Fresno, Cal.: W. J. Miller \& Co.
Dublin, Tex. Among the late orders of the Case Mfg. Co., are
those of Thos. Bradford \& Co., Cincinnati, $O$., for two Little Giant" break machines; five pairs rolls, cen. Wis., and from the W. P. Huffman Implement Co., at The (ase centrifugal. Kan., are building an additional foundry of brick, 75x 135 feet, with mounting shops attached, 75x75 feet,
and brick engine-house, $30 x 30$ feet, which will also ing shop will be supplied with drills, lathes, emery
grinders, etc. They already have a capacity of 3,000 Mr. Louis Gathman, president of The Garden City Mill Furnishing Co., of Chicago, has recently been
granted a milling process patent in which he claims
as follows: "Splitting and dividing through the crease and decorticating the half-kernels, then separating the impurities from the half-kernels,
then reducing the half-kernels, and afterward separating the inner bran-film from the product of
reduction, whereby a large percentage of pure food D. L. Wing \& Co., owners of the Planet Flouring debtedness is thought to be about $\$ 150,000$. The mill
property cost $\$ 400,000$, and has a bonded debt of $\$ 2255$,000 . There is also said to be considerable wheat and flour in the way of assets. Wing's trouble grew out
of an attempt to do very large business on inade. quate capital. He has been building a railroad be
tween Litchtield and East St. Louis, which is said to Among Indian flour contracts awarded at New
York June 3, were the following: C. H. Searing,
$1,241,500$ bs.at 82.04 per cwt., Kansas City; W. W.
Sheafe, 3000000 lbs. at $\$ 2.07$, Sioux City; A. C. Davis, Sheafe. 300,000 lbs. at $\$ 2.07$, Sioux City; A. C. Davis,
$1,022,500$ lbs., to be delivered at prices ranging from agencis; T. C. Power, 500,000 lbs, at $\$ 3.32$, at Fort Peck agency, Mont., and 175,0000 at $\$ 2.65$, at Brainerd, Minn.;
and W. S. Maxwell, 750,000 at and W. S. Maxwell, $750,000 \mathrm{lbs}$. at $\$ 3.833$, San Carlos
agency. A. Keyes is to deliver 40,000 lbs. of hard
bread at Yankton for $\$ 12.44$ a hundred weight The Case Mfg. Co. have recently received an order new mill at Morencie, Mich., after using the Case
system for 18 months. Their last order is for a full gradual reduction mill with 10 pairs of rolls. This
second large order from the they are pleased with the Case system. Two pairs of the Case Co., by E. M. Newton, of Adam's station,
Kan., also six pairs to J. B. Fieklin, Frederieksburg,

Milwaukee courts have had the famous Wells-Mc-
Geoch case before them during the past month. June Geoch case before them during the past month. June
20, Judge Hamilton, of the Circuit Court, rendered a
decision on the defendant's motion of the complaint filed by Wells stricken out and the pleading otherwise amended. The court denied the
motion as to some portions of the compiaint and granted it as to others. Among the portions to be
stricken out are several allegations of threats of financial ruin and personal violence, and promises
of large profts, etc., made by McGeoosh to Wells.
The victory is not a decisive one for either party Another manufacturing establisment is to be located in the city, says the La Crosse, Wis., Chronicle. It
is a cracker factory, and can hardly fail to be pros-
perous from the start. G. R. Montague will erect a perous from the start. G. R. Montague will erect a
building on Front street, $35 \times 90$ feet, with two stories , and the cracker man has taken lease for ine years. The latter has gone to Chicago
to buy 85,000 worth of machinery, and as the building is to be ready in sixty days, he will no doubt be
able to begin operations by Sept. 1. This institution able to begin operations by Sept. 1. This institution
is not to be rated as to value as an item in the city's business by the number of hands employed, nor by
the capital invested. and long distances to market and the consumers are everybody. Every package is an advertisement and
makes more familiar the name of the city where the
article was manufactured article was manufactured. The proprietor of the new industry is said by peo
be a bright business man.
The Beloit Free Press of June 11 states that Miss
Libbie Simmons, of that place, had a narow escape from an awfuldeath in the flouring-mill of Houston
$\&$ Whitford. The foreman, willard Calkins, was escorting the lady and a party of Calkins, was
her relatives hrough the establishment. when she suddenly eried
out, "Oh, I am caught." The foreman, who is a
miller of large experience and thoroughly versant with all the machinery, took in the situation
instantly, and realized that unless something was Cone and done quickly to free the lady from the
done shaft, death must follow, owing to the position of the shaft and its surroundings. As the mill could not be
shut down in time, and the clothing could not shut down in time, and the elothing could not be
cut loose, the only thing to be done was to let the elothing tear from her body. Acting as quiekly as
he thought, he told Miss Simmons to throw her arms around him and hold tight, while seizing her firmly he braced himself against the frame work around
the shafting, Mrs. Simmons holding on to her sister
at the same time, and they waited for the whirling at the same time, and they waited for the whiring
shaft to complete its dangerous work. The trio con-

THE UNITED STATES MILLER
tested with the power of the water-wheel; it was a garments soon parted, and Miss Simmons was released uninjured, but divested entirely of her skirts. The motion of the shaft was not very great but so fas
that the whole affair was over in a few seconds, ye it seemed a long time to those interested. As soo as the danger of the terrible ordeal was over,
Mr. Calkins notifled Mrs. Sherman, who lives on Third street, near the mill, of what had happened, and she supplied the victim of the accident with clothing, and she was conveyed to the residence o
Mrs. Jones, on Fourth street. Up to this time the Mrs. Jones, on bravely under her trial, but here she The Case Mfg. Co., have received an order for The barrel mill, for E. Pearce \& Co., Shreve, 0 . The citizens of Manter, Minn., are anxious to have
a flour mill. Anyone wanting a good site should orrespond with S. P. Todd, Manter, Minn.
Thos. Robinson \& Sons of Rochdale, England, have just placed their order with the Case Mis.
Geo. Zimmerle and others have organized a stook
company to erect a 100 barrel mill, at Galesb burg, II. It will use the new Finch rolls, the inventor of which is J. R. Finch, of Jackson, Mich.
The dam at Millbrook, Mich., gave way on the night of the 20th, and six bridges were carried away by the
torrent of water. Several houses were destroyed, and some cattle and swine drowned. No lives wer The water-wheel step in one of the wheels in the Washburn c, at Minneapolis, having been burne out, another was put in its place. The new wheel
a 60 inch "American"" made by Stout, Mills \& Temple, Dayton, $O$.
Dater Besides the new 600-barrel four-mill being erected
at Fergus Falls, Minn., by a company of which Hon. Henry G. Page is at the head and with a capital of
$\$ 100,000$, another mill will also soon be built, upon $\$ 100,000$, another mill will also soon be built, upon
the George B. Wright water power, thus making the George B. Wright water
five large roller mills at that point
The Pray Mfg. Co., as Minneapolis, report business good through the Northwest. They have taken the
contract for building a 50 barrel roller mill for Hugh Moore, at Mooreton, Dak. The principal part of the
work for the new 500 barrel mill at Fergus Falls, work for the new 500 barrel mill at
Minn., has also heen awarded to them.
C. Theis \& Sons' mill at Cumberland, O., built two years ago on the Case system, was burned not long
since, ana the firm have given the Case Co. thei since, and the firm their mill on the same system with a full line of their latest improved machinery. Such orders show that the merit of the Case system are fully appreciated.
An exchange says of the Finch rolls: "They are
simply in construction and do their work effectually The rolls are six inch rolls, one above the other, have adjustable boxes, arrangement for tightening an
loosening same, and belt drive. The machine sets on a base and the driving shaft is under it. It is a roll
especially adapted to mills of 50 to 200 bbls. capacity, and can be used to advantage in larger mills. Th
and
workmanship is first class in every detail workmanship is fist chass in ewy
Among the late orders received by the Case Mfg.
Co., of Columbus, O ., are the following: A complete Co.. of Columbus, O., are the following: A complete
outfit of breaks, rolls, puriflers, scalping reels, cen outfit of breaks, rolls, puriflers, scalping reels, een
trifugals, etc., for Kidwall \& Goode, Ellwood, Ind three pairs of rolls with patent feed, one No. 1double ordered by A. F. Ordway \& Son, for mill at Horton ville, Wis.; C. H. Bayman \& Son, of Covington, O three pairs rolls with patent feed, and No. 1 purifler Hammond \& Benedict, of Le Grand, Ia., order tw pairs rolls with automatic feed, and a No. 2 double one pair rolls, a No. 1 single puriffer, and a Case (im proved) centrifugal; Morris \& Allbaugh, Marysville Utah, three pairs rolls, No. 1 double purifler, 12-ree bolting, chest, scalpers, centrifugals, etc.; Hoover
Reasnec. Halstead, Kan., three additional pairs rolls with patent feed, and a 14 -reel bolting ches Henry Beckman, Neligh,, Neb., a double No. 1 Cas
purifier; J. T. Donovan, Lampassal, Tex., a No. single purifier; W. H. Tenney \& Son, Georgetown,
C two pairs rolls with patent feed; A. Hinma Perry, nl., eight pairs rolls, puriflers, scalpers, cen trifugals, etc., for a full gradual reduction mill on the Case system; Holmes \& Allgood, Rome, Ga., roll centrifugals, etc.; A. Comingo, Pleasant Hill, Mo
an improved Case centrifugal; Peter Schertz, dorado, Ia., two pairs rolls with patent feed; w mond City Mill Works, Richmond, Ind., sixf and 13 roil-break machines; John Damp, Ashlan Ky., automatic feed for all his roller-milis; H. C
Anesburg, Burlington, Mich,, a "Little Giant" break machine; Adamine and scalper combined, an two pairs of rolls with automatic feed; A. J. Van
meter, Miami, Mo., orders breaks, rolls, scalper etc.; James Jones, Thorold, Ont., three pairs of rolls: one No. 1 double, and one No. 2 single purifier, 1 matic feed; Fitzsimmons \& Kreider, Jacksonville IIl., order the Case automatic feed for all their roller mills, and William Braley of Centreville, Ia., order two pairs of Case rolls, with patent feed. The Cas Manufacturing Co., are running full time,
The following orders for Allis rolls in Gray's past month by Messrs. Edw. P. Allis \& Co., of the Reliance Works, Milwaukee Wis.: Ruffin, McDaniel \& Co., Carthage, Mo., 10 pairs rolls, with a complete outfit to remodel their mill to the full roller system;
Wm. Farrell, Carlinville, Ill., a complete roller mill, Will Farrell, Carlinville, in., a complete pairs rolls; South Lyons Milling
fit with eleven pairs rolls, also a $12 \times 30$ Reynolds' Corinss engine with boiler, etc., for power outft; Messrs.
Rosevelt Bros., Ackley, Ia., elght pairs rolls and Rosevelt Bros., Ackley, Ia., eight pairs rolls and
other machinery necessary to equip their mill on the ther machinery necessary to equip their mill on the
roller system; Rosecrans, Wenz \& Eokley, Sigour nesh, I.., four pairs rolls and a No. 2 four-break mahine; Kauffman Milling Co., St. Louis, Mo., a comeb., a complete roller mill; Elkhorn Mill Co, oonevilie, Ind., eight pairs rolls; Levenhagen \& pecial machinetry; R. A. Willing, Phelps, N. Y., eight pairs rolls; A. J. Kuhn, Columbia, Tenn., four pairs rolls; E. Middletown \& Sons., Greenville, Mich., all the necessary machinery to double the capacity of heir present mill, including twenty-six pairs rolls;
kron Milling Co., Akron, 0 ., twenty-six pairs rolls, kron Milling Co., Akron, O., twenty-six pairs rolls,
also all machinery necessary for their new oat-meal and rye mill; A. W. Martin, Hagerstown, Md., twelve pairs rolls; Proctor Taylor, Pontiac Ill, a complete roller mill; through Richmond City Mill Works
for Landes Beall \& Co., Arkansas City, Kan., six for Landes Beall \& Co., Arkansas City, Kan., six
pairs rolls, and for J. G. Bayne \& Sons, Bagdad, Ky., pairs rolls, and for J. G. Bayne \& sons, Bagad, K. Farnsworth, Buekhannon
ten pairs rolls; D. D. T. Far amaker, Allentown, Pa., twelve pairs rolls for E. Hamaker, Allentown, Pa., twelve pairs rols ili
Strickler \& Bro., Lebanon, Pa; Samuel williams,
Carthage, Mo., a complete roller mill: Nashyille Mill o., Nashville Tenn., twelve pairs rolls and necessary
achinery to double the capacity of their mill, which will make it from 300 to of their presen other machinery necessary to put his mifl on the oller system; Lanier Mill Co., Nashville, Tenn.,
omplete roller mill; Beckley \& Phipps, Grove City, Sinn., a complete roller mill; through Willford ver Pederson, Galesville, Wis.; John Ream, Hagers town, Md., four pairs rolls; Charles Hopt, Hamburg,
ta., a complete roller mill; Nickerson \& Collister,
 luding twelve pairs rolls; Bauernfeind \& Metzger Glenbeulah, Wis., four pairs roils; Peters \& Jones,
Knoxville, Tenn., three pairs rolls; through Geo. Jarrett, Des Moines, Iowa, a complete roller mill fo
J. Friggs, Hooper, Neb.; through Wolf \& Hamake Allentown, Pa., a complete roller mill for W. Bern
inger, Catawissa, ;Pa.; $\mathbf{S}$. T. Miller, Middletown, $\mathbf{V}_{a}$. en pairs rolls; John Dwight \& Co., New York City en pairs rolis; John Dwight \& C., New York City,
one complete roller mill; W. E. Woodyear, Baltimore, ., one complete roller mill; L. V. Rathbun, Roches er, N. Y.. one complete roller mill; Benj. Charles,
lear Springs. Md.. one No. 2 four-break machine nd four pairs rolls; J. M. Piazzek, Valley Falls, Kan., A. Wegmann, Victoria, porcelain roller mill. In ad-
ditional to the foregoing, the following orders for , the past month: The Lucy Furnace Co., Pittsburgh, Pa., a patent automatic cut off blowing engine, steam waukee, Wis., an $18 x 42$ engine; the Moore Combinaion Desk Co., Indianapolis. Ind., a $14 \times 42$ engine; the giverside Printing Co.. Milwaukee, Wis., an 8xi4 en-
gine; the Union Elevator Co., Kansas City, Mo., an engine.
SPECIAL BUSINESS NOTICES
ABOUT THE CURTIS' HELFRICH GRAIN CLEANER The following letter has just been
manufacturers, and speaks for itself.

Office of Chas. A. Pillsbury ach Co. Curtis \& Helfrich, City.
Gentlemen:-"We are using a number of your new Wheat cleaners, aud are $t$ a superior scouring machine, especially for cleaning and putting in milling condition, smutty wheat which requires very thorough scouring in order to mill it at all.

Very truly yours,
CHAS. A. PILLSBURY.
MILL COGS AND CONVEYOR FLIGHTS. Cogs to order on shortest possible notice. Large stock of conveyor flights on hana.
N. P. BOWSHER.

South Bend, Ind.
Flint ${ }^{2}$ Pere Marquette R. R. LUDINGTON ROUTE.

Fast Freight \& Passenger Line.
Freight Contracted on through Bills Lading Michigan, Indiana, Ohio,

New York, Pennsylvania New Englund \& Canada. at Lowest rates.

All freight insured across Lake Michigan. Passengers save $\$ 2.75$ to all points East. Dock and Offices, No. 24 West Water St., one block from Union Depot.
L. C. WHITNEY,


Cockle Separator Manufacturing Company GENERAL MIL FURNISHERS Kurth's Improved Patent COCKLE SEPARATOR, Built alsp in combination with Rithardoon't Wheat Separators.
 and



MOOREX UNIVERSAL ASSISTANT




Good Opportunity to purchase a mill.

ASSIGNEE'S SALE OF FLOUR MILL PROPERTY.


July 16, A. D., 1884,



width of said lot No. 129, together with the thour milil
engines, boilers, milling apparatus attached, and all
the machinery affex and and buildings thereon, belong
ing and apper

of Almira F. Lawson and of Ellen Bell, and upon
one.third cash down, one-third in one year and one
ohird in two years from the day of sale; the deferred
instalments to bear eight per cent. per annum inter-
est from day of sale, payable annuall, and to be
secured by mortgare on the premises, and by insur
ance in a responsibe insurance company on the flou
mill, against loss by fre, in a sum not less than the
deferred instalments and the interest, for the beneftit
of the assignee or his assigns. The purchaser to pay
dererred instaiments and the interest, for the benent
of the assignee or hif assigns. The purchaser to pay
the taxes payable after June, 1884 .
GEORGE HOUSE,
Remarks: This is a new mill, three stories high
of brick, containing fine machinery, including six of briek, containing flne maehinery, including six
double roller machines, of a standard make, and
three run of stone. Daily cupacity, 150 barrels o
flour. Inspection solicited.

See Page 40.

Important Notice to Millers.
THE RICHMOND MILL WORKS, and RICHMOND Indianapolis, Ind., with all the former patterns, tools,
and machinery, and those of the frm who formerly
anilt up and established the reputation of this house


Detroit, Grand Haven \& Milwaukee RAILWAY LINE.

The Shortest 書 Cheapest Route

## E $+\mathbf{A}+\boldsymbol{S}+\mathrm{T}$

DAYLIGHT EXCURSION!
Grand Haven and Return $\$ 1.00$ Leaves daily (except Sunday) at $7: 00$ A. M., and con-
neets with Limited Express. Nigh Ateamers leave
daily (except Saturday) at $8: 30$ P. M., And connect with

SLEEPING and PARLOR CARS on through trains.
Ticket Offices, , 99 Wisconsin Street, at Doek, foot
of West Water Street.
B. C. MEDDAUGH, T. TANDY,

West. Pass. Agt. Gen'l Fr't and Pass. Agt
G. R. NASH, Manager.


BRAN MidDLINGS, MITCHINER \& LitnNe.
Old Corn Exchange, LONDON, ENGLAND.
Axe O. I. F. Fuyers of the Above.


45 LB8. FLOUR.
The Thayer Manufacturing (? Mill Furnishing $C 0$.
Practical Mill Builders of both Buhrs and Rolls, or both combined. Building new and remodeling
Buhr mills with all the latest improvements, includini Buhr Dressing, new process Bolting, together with Buhr mills with all the latest improvements, ircludin\% Buhr Dressing, now $p$
the latest improvements in wheat cleaning. GUARANTEEING RESULTS.

Manufacturers of

COMION SERSE THRER RREL BOLT.
Without Conveyoxs.
Runs with one-half the power of ordinary Bolts.

THAYER'S PNEUMATIC MIDDLINGS PURETRTJER Adapted to all systems of milling, has many advantages
over all other Purfifers in making a complete separation of the fine from the coarse maddlings by controto separate air cur
rents purify ine sear rents, purifying separately on the same machine, handling
middlings without granulation, occupies less space, runs with less power, requires less attention, is made more dur-
able, fand is less liabe to get out of repar than any other
purifier made. For 1884 Catalogue, Prices, etc., adddress, Thayer Manufacturing \& Mill Furnishing Co., Westerville, Frankiin Co., o. [Please mention the United States Miller when you write to us.]
 correct that has been devised, gives the highest results, and, with late improvements, is now the best, most practical, and efficient Partial Gate Wheel in existence.

For Economy, Strength, Simplicity, Durability, and Tightness of Gate, it has no equal.

State your requirements, and send for Catalogue to

## T. G. Alcott \& Son,

 MOUNT HOLLY, N. J.
## WALKER BROS. \& CO.,

 flour and grain Commission Merchants trinity square, (T) will move a loaded ear CAR PUSHER E. P. DWIGHT,
 iondon, e. o., - emazand.

## Nordyke \& Marmon Co., INDIANAPOLIS, IND.

buIlders from the raw material of

# ROLLERMILLS,CENTRIFUGALREELS, 

Flour Bolts, Scalping Reels, Aspirators, Millstones, Portable Mills,


## All Kinds of Will Suplies $\frac{\stackrel{\rightharpoonup}{3} \text { U. United States. }}{}$

500 BARREL MILL IN MISSOURI. bead what an old miller, who has thirty-four pairs of these rolls in constant use, says: Messrs. Nordyke \& Marmon Co., Indiana poLis, Ind.
Gentlemen:-In regard to the workings of our new
 Gentlemen:-In regard to the workings of our new mill erected by you, will say it is working fully up to and beyond our expectations. Our
average work is fully 38 per cent. over your guarantee. Since starting our mill last july we have had no complaint of our flour from any markel


 to the ability and skill of Col. C. A. Winn, your Milling Engineer and Designer. You may point to this mill with pride and say to competit
"You may try to equal, but you will never beat it." Wishing you the suceess that honorable dealing deserves, I am,
Y. H. FArs, ete.,

## 500 BARREL MILL IN ILLINOIS.

 no trouble. Your milling program required no changes, and concerning yields, we get all the tlour from the oftals, and we sell our best grades in
the principal markets of the Cnited States at the highest prices offered for any flour
not know where to purchase as good.
Yours respeetfully,

125 BARREL MILL IN INDIANA.
 you for this machinery we visited many Roller Millis throughout the Weest and Northwest, whilt by the different leading Mill-furnishers, and from all we could see, those built by you seemed to be giving the best satisfaction, and this is why we bought our machinery of you, Our mill comes
fully up to your guarantees, and the capacity runs over your guarantee. The bran and offal is practically free from flour, and our patent and fuly up to your guarantees, and the capacity runs over your guarantee. The bran and orrai is practically free rrom frour, and our patent and
bakers flour ompares favorably with any we have seen elsewher. Idon'think anyone can beat us. Your Roller Machines are the best wee
have seen; they run cool, and the interior does not sweat, and cause doughing of the flour. Judging from our suceess, we would recommend have seen; they run eool, and the interior does not sweat, and cause doughing of the flour. Judging from our success, we would reommen
other millers to place their orders with you.
J. T. Fors truly,

Letters on file in our office from a large number of small Roller Millers giving \} as favorable reports as above. A portion will be published as occasion demands.

Southern Exposition at Louisville, Ky., 1883.
The Board of Directors has confirmed the following report of the Jurors on Awards for the Nouthern Exposition of 1883, and decreed an auard therewith as follows:
stout, - ров вевт

Roller Mills.

<br>Dayton, Ohio<br>AWARD-A Medal for the BEST ROLLER MILL8.<br>The Award as made above is in the hands of the engraver, and will be delivered soon as completed. Louisville, Nov. 26, 1883.

## The Gilbert Combination

Acknowledged by ALL USERS and DISINTERESTED JUDGRS to be the Best Combination Mill in the World.


## Reduction Roller Mill.

It is used in a Gradual Reduction Mill to make the breaks, and to do the scalping between same, and aspirates the stock after EACH separation. The products from the Mill are Bran for the Duster, and Middlings for the Purifier.

## The Livingston Beted Roller Mill

 The strongest, simplest, yet most completely adjusted Four-Roller mill in the market. It can be used for reducing all kinds of grain.For descriptive circular and price list, call on or address,

## STOUT, MILLS \& TEUPLE,

 Sole Manufacturers,Dayton, Ohio.


Chas. bakes, Lockport, I. Y., Sole Agent for Mew York, Pennsylvania, Virginia, W. Virginia, Maryland, Mew. Jersey and Hew England States.


HENRY HERZER,


IILWAUKEE, WIS.
I have had twenty-two years' experience in the-
manufacture and dressing of Mill Picks, and can and manufacture and dressing of Mill Priks, and can and
do make as fine Mill Pleks as an be made by anybody
anywhere. I nse only the beat imported steel for anywhere. I Use only the bewt imporied stee for
the purpose. My work is known by millers through-
out the oountry and is pronounced to be first class
oy out the country, and js pronouced
by the very best judges.
We have hundreds of the most gratifying testimoWe have hundreds of the most gratifying testimo-
nialis from nearly all the states. We osicict your or-
ders and guarantee satisfaction. Address as above. ders and guarantee satisfaction. Adaress as above.
[Please mention this paper when you write.] THE
Mivanute, $[$ Ieve Shore \& Western RAILWAY,

THE BEST LINE BETWEEN Milwaukee, Sheboygan,

Manitowoc, Appleton,
New London and Wausau.

Sleeping Cars on all night Trains.
Double Berth 75 cents to $\$ 1.00$.
The Best Route
Froin Onhkosh and Appleton to all Points London Junction.

The fishing resorts on the Northern extension of the Line offer unsurpassed inducements te sportsmen.
Speefal ex eurron rates for parties. Gutae Book
entitled ".Forests, Streams and Lakes of Northern
 Wisconsin and Me migan
applieation to the undersigned after March 1st, 1886, H. G. H. REED, H. F. WHITOOMB,

# EDW. P. ALLIS \& CO. 

## MILWAUKEE, WISCONSIN.



AND SOLE MANUFACTURERS OF

## Gray’s Patent Noiseless



CORRUGATED AND SMOOTH GHILLED IRON ROLLS,

## Wegmann's Patent Porcelain Roller.

We shall be Pleased to hear from Millers contemplating an improvement in their Mills, or Building new ones, and can furnish Estimates and Plans of our system of GRADUAL REDUCTION ROLLER MILLING. We have built and Changed over hundreds of Mills, in all parts of the Country, and using all classes of wheat, BOTH HARD AND SOFT, and can furnish references on application. The Largest and Best Mills of this Country are using our System and Roller Machines. Messrs. C. A. Pillsbury \& Co., of Minneapolis, have over 400 PAIRS OF OUR ROLLS AND HAVE RECENTLY PLACED AN ORDER WITH US FOR ABOUT ONE HUNDRED AND TWENTY MORE. We have had a longer and larger experience in Roller Mill Building than any other manufacturers of this country. There is no EXPERIMENT ABOUT OUR SYSTEM and Rolls, so expensive to millers, and when the mills that we build or change over are ready to start, THEY DO SO AND WITH PERFECT SUCCESS, and there is no further changing, additions, stopping or expense. We manufactured and sold during the year 1881 over TWO THOUSAND FIVE HUNDRED pairs of rolls.

We can send competent men to consult with any millers who contemplate an improvement, and whom they can depend upon as being RELIABLE AND THOROUGHLY COMPETENT to advise them as to the number and kind of machines required, best method of placing them and the change required, if any, in the bolting and purifying system. WE DO NOT URGE A GENERAL CLEANING OUT OF ALL OLD MACHINERY unless we clearly see such would be the ONLY COURSE TO PURSUE to make a SATISFACTORY AiV D RELIABLE MILL. In nearly all instances we can use all the Old Machinery, leaving it in its original position, or with as slight a change as possible. We aim to make the Improvement so that it will be a Profitable one to the Miller, and at the least expense possible.

Our System is THOROUGH and RELJABLE, and our Roller Machine Perfected by Long Experience, and the Miller takes no chances in using them. as HE DOES with the New Fangled Notions of Drive and Adjustment on many other machines now TRYING TO FOLLOW OUR IMPROVEMENTS and still avoid our Patents, in BOTH of which THEY FAIL. We were the first to advocate the Entire Belt Drive, and were opposed by every other maker, who claimed it was not positive, etc., etc., and now that our Belt Drive is an ACKNOWLEDGED SUCCESS, and will SUPERCEDE EVERY OTHER STYLE, these advocates of Gear Drive have suddenly learned that Belts are the Thing. The same may be said of our Spreading Device, Feed Gates, and Adjustable Swing Boxes. Other Makers are now copying these. ALL these Features, including BELT DRIVE with ADJUSTABLE COUNTERSHAFT and TIGHTENER, the SPREADING DEVICE, FEED GATES, Adjustable Swing Boxes and Leveling Devices, Self-Oiling Boxes, etc., are secured to us by several Strong Patents, and we CAUTION MILLERS in regard to these Infringements of Our Patents and Rights, for we shall look to THEM for Redress. The matter is in the hands of our Attorneys, who will soon take VIGOROUS AC'TION against the Makers and USERS OF MACHINES infringing Our Patents.

Several machines are already on the market which Broadly Infringe, and we are informed that other makers are now changing their Old Style Machines, and adopting in a large measure Our Improvements. BEWARE OF THEM.

## Send for New Illustrated Catalogue, Civing full Information to

# EDW. P. ALLIS \& CO., MILWAUKEE, WIS. 

Branch Office 318 Pine Street, Benson Block, SAN FRANCISCO, CAL. J. R. CROEB, Manager.

## The Cummer Automatic Engine <br> IS UNEQUALLED IN <br> Ease of Operation, Effective Duty, Close Regulation, <br> In Quick Starting up to Speed, Uniformity of Speed and Economy of Fuel. <br> 

[^5] These are points of Importance to every Miller and Manufacturer who expects prompt, even duty of an Engine.
Printed matter, cuts, and information promptly furnished on application. Send for our 150 page Illustrated
Catalogue.


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Won t order your Cloth until you have conferred with us; it will pay you both in
point of quality and price. We are prepared point of quality and price. We are prepared us before you order. Address,
CASE MFG. CO..
Office \& Factory: Columbur, Ohio. Fifth St., North of Waughten.

FINE SEND COPY FOR CROSSCUP \& WEST.
ITETIMATERYYOU) 702 CHESTNUT? PHILADA PA

# THE CASE MACHIIERY! SOLID VOLUNTARY TESTIMONY. 

Messrs. Case Manufacturing Co., Columbus, $\boldsymbol{O}$.

Dover, O., June 16, 1884.
Gentlemen:---I wish to say to my milling friends that I have the best Roller Mill in this section. It consists of ten pairs of "Case" Rolls, and a full outfit of Purifiers, Centrifugals and Scalping Reels, and other machinery from the same company. I wish to say to parties that are contemplating remodeling or building new mills to see your machinery before purchasing, for the reason that you have the most complete "Flow" of material that I ever saw, and the most substantial machinery in the market. The Automatic Feed on the Rolls and Purifiers is the finest in the world and needs no attention whatever. I will tell you what we are doing with the mill. We are making a bbl. of straight Roller Flour out of $42 / 3$ bushels of wheat, and the beauty of the working of the mill is we are only making $1 / 2 \mathrm{lb}$. of Low Grade Flour to the bbl. Our Straight Grade Flour is taking the lead, as will be seen by the signatures of parties that are handling it.
[Signatures omitted here.]
A Word to my Milling Friends: I would be pleased to have you come and see the working of my mill and examine my machinery, and see for yourselves that I can back up what I vy, namely: That the Case Mfg Co. have the best and most substantial Flouring Machinery in the market. This is my judgment, that if you give the Case Mfg. Co. your order for a full line of Breaks, Rolls, Purifiers, etc., you will have the most complete mill outfit that can be furnished in this age of the world. I intended to have written you this some months ago and ought to have done so. Wishing you the success your machines surely merit, I remain, very truly yours,
E. E. CARPENTER, Dover, Cuyahoga Cr O.

We can do as well by any Customer as we did by Mr. Carpenter. Address,

E. harkilsond ©aiwker.\{ Vol. 17, No. 4.\}

MIL, WAUKEE, AUGUST, 1884.

 NOTE bOLTING oLOTH DUFOUR

| The Noye Cloth is made expressly for our own use by C. Schindler-Escher, Zurich, | Numberless attempts have been made to palm off inferior grades of cloth for Dufour, |
| :---: | :---: |
| Switzerland, and is the only cloth in the world which can be recognized by the ColOREED | but up to the present time all such efforts have signally failed. We have handled this |
| OHREADS IN THE SELVEDGE, thereby enabling us to guarantee the different | silk since its first introduction into this country, and in purchasing of us millers can |
| lege is insured to us by letters trade mark. | forn getting |
| One Green Thread Indicates Staudard Quality. | THE GENUINE DUFOUR. |
| Two Red Thuerals Indicate Double Extia Quality. <br> All these qualities are made BEFORE the piece is woven and not by mechanical means afterwards. | It is particularly noted for its superior qualities in the way of STRENGTH, ELASTICITY, UNIFORMITY IN MESH, REGULARITY OF THREADS, and freedom in bolting under all temperatures |
| CLOTHS MADE UP IN A SUPERIOR | IANNER BY PATENTED MACHINERY. |



## ODELL'S ROLLER MILL SYSTEM.

Is now in successful operation in a large number of mills, both large and small, on hard and soft wheat, and is meeting with Unparalleled Success. All the mills now running OODELL'S ROLLER MILL, AN ESTABLISHED SUCCESS
**POINTS OF SUPERIORITY**possessed by the Odell Roller Mill over all competitors, all of which are broadly covered by
patents, and cannot be used on any other machine. 1. It is driven entirely with belts, which are so arranged as to be equivalent to giving each
of the four rolls a separate driving-belt from the power shaft, thus obtaining a positice
differential motion which cannot be had with short belts differential motion which cannot be had with short belts. 2. It is the only Roller. Mill in market which can instantly be stopmed withont
throwing off the driving-belt, or that has adequate tightener devices for taking up the
stretch of the driving-belts. 3. It is the only Roller Mill in which one movement of a hand-ltrer spreads the
rolls apart and shuts onf the feed at the same time. The reverse movement of this rolls apart and shuts off the feed at the same timu. The reverse movement of this
lever brings the rolls back again exactly into working position and at the same time
turns on the feed. 4. It is the only Roller Mill in which the movable roll-bearings may be adjusted to and
from the stationary roll-bearings without disturbing the tension-spring. 5. Our Corrugation is a decided advance over all others. It produces a more even granu-
lation, more mildliugs of uniform shape and size, aud clecus the bran better.

We use none but the Best Ansonia Rolls.
Less break flour and middoling of Better puality. Mill owners adopting our Roller Mills will have the benefit of Mr. Odell's advice, and long experience in arranging mills. Can furnish machines on Short Notice. For further information, apply in person or by letter to the sole manufacturers,

## Stilwell \& Bierce Manufacturing Co.,

The Largest Mill Furnishing Establishment in the World. REMIANNCE WTOREES EDW. P. ALLIS \& CO., Proprietors.


MLLWAUKEE, WIS.. U. S. A.
SOLE MANUFACTURERS OF
GRAY'S PA'TEN'T

## Noiseless Belt Roller Mills

WITEX
Wegmann's Patent Porcelain Rolls.
Unexcelled for reducing Middlings to Flour.
Far ahead of Smooth Iron or Scratch Rolls and entirely superseding the use of Mill Stones for this purpose.

## Fead the F"ollowing Tetters.

Terre Haute, Ind., Aug. 22nd, 1882.
Messrs. E. P. Aleis \& Co., Milwaukee,
Gentlemen :-We are very much pleased with the whole eight set of Porcelain Rolls you put in our Mill. The two double sets sent us soon after starting up our mill last fall, we put in place of two run of stones for grinding our coarse Middlings.

We find the Flour from the Porcelain Rolls much more evenly granulated and much sharper and cleaner than that we got from the stones, besides the second or fine Middlings are much better, being almost entirely free from germs and not as specky.

Messrs. E. P. Allis \& Co Kings County Flour Mills, Brooklyn, N. Y., Aug. 15, 1882
Gentlemen:-You ask how I like the Porcelain Rolls as compared with Mill Stones.
I have been using the original Porcelain Gear Maehines for five years and became conyinced a lon using the original Porcelain Gear Machines for five years and became con1 am now operating your Improved Machine of increased size with nice adi. working without noise with Gray's Patent Belt Drive. The Flour it produces is beautifuly grainy and strong, and its capacity two or three times more than the old Gear Machine. with costly stone dressing and for reducing middlin tess power than Mnl Stones, dispenses ings is unequaled by any Machine, iron or stone, at least this is my opinion after five years of practical experience.

## REYNOLDS



These Eugines are especially adapted for use in Flouring Mills-being unsurpassed in Simplicity, Durability and ECONOMY OF FUEL, and far ahead of any other

Automatic Cut-off Engines.

Send for catalogues of Roller Mills, Flour Mill Machinery, Saw Mill Machinery, Reynolds' Corliss Engines, etc., etc. Address

Edw. P. Allis \& Co.. MILWAUKEE, WIS.

The following is a partial list of Flouring Mill owners who are using the Reynolds' Corliss Engines.




## rope driving in flour mills.

## [A paper read before the British and Irish Mille

 Association, June 26,of Bolton, England.]
Rope driving has now been in use in England for 12 or 13 years, but it is only within about the last eight years that its superiority has been recognized. In Lancashire especially the system has obtained great favor, and now in building a cotton mill hardly any other means of driving is thought of. The system has been in use so long now that its merits have been thoroughly tested under all sorts of conditions, and anyone adopting it at the present day may do so with the confidence that it is out of the experimental stage. Well known as it is, there are still certain points necessary to be considered in its application which will determine the difference between a good working arrangement and a bad one.
Before ropes came into general use in
Lancashire, the American system Lancashire, the American system of driving by means of large leather belts was widely adopted, and the system worked very well
when properly carried out, when good leather when properly carried out, when good leather
belts could be obtained, when due care was belts could be obtained, when due care was
taken of them, and when the shafts were taken of them, and when the shafts were belts themselves were so enormously expensive that they became a very serious item in the expenses of working a mill, as the life of a belt could only with safety be reckoned at about ten years. Then there was the difficulty of getting thoroughly good belts and sound well tanned leather. On the other hand, ropes
cost so little and will work well under such apparently adverse circumstances, and with apparently adverse circumstances, and with
little or no attention, that they soon became adopted in preference to belting.
adopted in preference to belting.
Various forms of ropes and various materials have been used; some good and some bad, and others again only applicable under is the round three-strand rope, and the mais the round three-strand rope, and the
terials most in use are hemp and cotton.
The ropes run in grooves on the rims of th pulleys, and the power is usually taken off from the fly-wheel rim itself. The diamete of ropes varies from usual size being 1 inch diameter for main great facilities for placing the engine in great facirties for placing the engine in a gine can be placed at the height which best suits the drawing and discharge of the water for condensing purposes; and laterally the most suitable position may be chosen, so long as the flywheel shaft lies parallel to the shafts in the mill. The distances between two shafts connected by ropes varies from 10 feet to 100 feet or more, depending on the size of pulleys and diameter of ropes employed and convenience. Any direction of drive may be adopted, except a perfectly ver ical one; and it makes no practical differside is at the top or the bottom. The speed at which ropes are run varies between 2,000 feet and 7,000 feet per minute, being usually from 4,000 feet to 5,500 feet in main driving ; but it may be taken as a rule that the faster a rope runs the better and more steadily it will work. The power which can be transmitted varies in direct proportion to the speed at which the rope runs. The power that a rope will drive at a given speed is limited by the length of bearing it has on the smaller pulley on which it works, it being usual to transmit from 25 to 30 I.H.P. by a rope $1 \frac{4}{4}$ inch diameter at 4,000 feet per minute, working on a 5 -feet pulley. It is very important that the diameter of a hemp or cotton rope should not be more than 1-35th of the diameter of the smaller pulley, or the rope is soon ruined by being bent round too sharp a curve.
The form of groove for the rope to run in is an important point. It must be $V$-shaped, and the rope must not touch the bottom, but amount of this wedging action will depend greatly on the angle between the sides of the groove. If this angle is too acute the rope will wedge itself in so tightly as to cause a
$\left\lvert\, \begin{aligned} & \text { great deal of power to be lost in pulling } \\ & \text { out of the groove as it leaves the pulley. }\end{aligned}\right.$ out of the groove as it leaves the pulley.
the angle be too obtuse the ropes will sli the angle be too obtuse the ropes will slip,
unless kept very tight. When the correct angle is adopted and the ropes are run at the proper tightness, they work without excessive
wedging or slipping, the rope turning round as it works and wearing evenly all over. Ex-
perience has shown the angle of 45 degrees perience has shown the angle of 45 degrees
to be a good one, and it is generally adopted to be a good one, and it is generally adopted
though sometimes a slightly more obtuse angle is preferred. There is often a guard
or flange between the grooves, but it is not necessary, many people preferring the plain $\checkmark$ groove.
The tensile driving strain upon a $1 \frac{1}{4}$ inch rope whilst traveling 4,000 feet per minute
and driving 25 I.H.P., is $\frac{5 \times x 33,000}{4,000}=206$ lbs. This is a very light strain, and it will be easily seen that when four ropes are working on the same pulley and there is occasion to he others will then of the ropes, each of 274 lbs . on it, which it is quite easily able to stand. It may be thought that a working very little to be put on a 14 inch rope but this is not all the rope has to bear; the strain caused by its own weight may be even more than this, depending upon the length of rope; and it must also be considered that after ope has worked for some
is very much decreased.
It is a common error to suppose that by putting an increased number of ropes to do a certain amount of work the durability of the ropes will be correspondingly increased. How considered thica is will be seen when it is strain which is it is not the actual tensil ates it, as the greater part of the wear results from the rubbing of the strands of the rope against each other in bending round the pul-
ley. This fact is proved by the ley. This fact is proved by the way in which ropes are found to be worn when they are
taken off. On cutting an old hemp or cotton taken off. On cutting an old hemp or cotton portion of the heart has that a considerable der. Many means have been ground to powthis internal wear, such as making ropes with this internal wear, such as making ropes with
six or more external strands and a central core, but nothing has as yet been proved to xcel the ordinary three-strand rope, and the est means of reducing the wear is to lubri ate the strands before twisting them together and to lubricate the ropes sufficiently
Good Ma
Good Manilla hemp ropes may be safely eckoned to last six or eight years, while good years, when working ten hours a day. There are very great variations in the quality of the tton yarn from which ropes are made Manilla hemp ropes generally cost about 6. per cwt., really good cotton ropes from Rope driving admits of applin
Rope driving admits of application in many sible to adopt belting. The width be imposby the ropest trive. . 100 indicath occupied power, would be 9 inches; the width required by a belt to drive the same power would bed about 12 inches, and when several welts have to drive off the same pulley, it is necessary to leave about three inches of spacessary to the belts. This space is saved in the case of ropes.
One reason why the application of rope driving to old engines is limited, is that the will not allow of a width of pulley sufticient for the number of ropes required to drive the power. In these cases, the difficulty can ropes. These ropes will stand of steel wire tensile strain than the hemp or cotton ropes, and will transmit a much greater power, pro vided the pulleys are large enough to give the necessary adhesion between rope and pulley It is easily understood that a very strong rope is of no more use than a weak one if the adhesion is so small that the rope will slip power is put upon it. The wire
diameter, the rope being made up to $1 \frac{1}{t}$ inch in diameter by a leather covering. The min imum size of pulley for a wire rope should b teel rope nch in diameter. The larger the pulleys are, however, the better.
Where rope driving has to be applied to it is generally iner from an old beam engine is generally impossible to drive directly engine is in the way if a large enough pulle is put in to give a fair speed of rope. It is motion shaft, keeping in use the old toohtbed flywheel and pinion. In this case it is a mat pulleys very vital importance that the rope as light as possible, so that they may cause the pinion to overrun the engine and create backlash. In such cases, a particular construction of rope pulley is preferable to the ordinary cast iron one. In this the rim and boss are of cast iron, and the arms are wrought iron. In making these pulleys the arms are laid into the mould, and the rim is cast and allowed to cool. When the rim has et rid of the contraction boss is cast. To itself, it is split in several sections. Keys are afterwards fitted between the sections of and wrought iron hoops are shrunk sides, By this means, a pulley is are shrunk on it ontraction strains whitere and as a conequence, it can be made much lighter than if entirely of cast iron. These pulleys weigh
from $\frac{1}{2}$ to $\frac{f}{8}$ as much as ordinary pulleys, and are considerably stronger
For very high rope speeds it is necessary to take every precaution against bursting. Such pulleys as described are running at periphery speeds of over 7,000 feet per minute.
would be unsafe to subject an iron pulley to the strains induced by such a speed.
The great advantages of running the ropes thigh speeds are as follows: Fewer ropes less, the wear and tear on the ropes cost is and they last longer, the friction is less, greatly reduced, as the side pull on the bearings is exactly in proportion to the number of ropes, and has no relation whatever to the
Compare two arrangements of rope driving at higher and lower speeds : say two shafts, each running 200 revolutions per minute,
connected by ropes, transmitting, say 120 horse-power. If we put a five-feet pulley on each shaft, we shall require six ropes to
transmit the power; but if we make the pulleys 10 feet diameter, three ropes will suffice. In both cases the shafts have the same feet pulleys the side pull is from six ropes against three with the 10 -feet pulleys; nearly pulleys, and rope is required for the smaller pulleys, and owing to their smaller radius, the
six ropes would not last as long as the three. six ropes would not last as long as the three.
The ropes working on the larger pulleys could also be worked much slacker than those on the small ones, owing to their longer bearing friction on the bearings and increase the life of the ropes.
As yet I have said nothing on the question of ropes versus spur wheels, and will now just point out some of the advantages of the new over the old system. Spur wheels form engine and the machinery, while been the elastic and the machinery, while ropes are bad and unsteady engine extent, and with a work well when driven by ropes wher th opposite would be the case with wheel driving The ropes, in fact, actas a cushion takiving ny sudden strain. Ropes are all taking up they work, and anything wrong with them can be seen at once; whereas with wheels something may easily go wrong without its, eing suspected until serious mischief is done The breakage of a pair of wheels, especially
if on an upright or second-motion shaft, is a
very serious matter, any serious matter, and yet it may happen gives ample warning before breaking and gives ample warning before breaking and can generally be taken off in time, and the
others drive till it is replaced. quired to splice a rope is about three hours, but all repairs to ropes, if properly managed, can be done at week ends. Ropes require taking up occasionally, the number of times taking up occasionally, the number of times
depending on the work they have to do. A ood rope with fair play should not require taking up more than three times in its life. It is sometimes desired to alter the speed of one wheels this is often a great nudertaking, while in the case of ropes it simply means ordering ne new pulley
If it is required to stop, say one story of mill, it is done by taking off the ropes. With hemselves.
is necessary to disturb the wheels
Again, ropes are cleaner than wheels, and freedom from noise and jar is a great adrst cost of rever and above all these, the xings and shafting, the massive gearing wall, and the heavy foundations required are lone away with.
Against all these advantages there is only one slight disadvantage in rope driving. It sometimes absorbs more powerin friction than wheels; but when ropes are run at a high speed, and their number is properly proportioned to the power, the advantage in favor weight in the face of all their other disadyantages.

## option trading.

Option trading is a kind of speculation so disagreeable odor which attaches to for the ter term, it is difficult for the unprejudiced observer to distinguish between them. tion trading is not dealing in actual chandise. The buyer of an option in wheat or coffee or petroleum never in wheat take delivery, much less does the seller expect to deliver; they are merely betting on fluctuations of price, and are looking to noth ing more than paying or receiving a differ ence which is determined by formulated rules. A merchant, according to the old ac ceptation of that term-and the definition has not changed-required not only special business training, but long experience, sound udgment, ample credit founded upon sub stantial capital, boldness as distinguished from rashness in executing well mature plans, uncompromising integrity and untarnished reputation. These requisites have al ways been recognized as essential in the past, and are held to be to-day a sine que no of success. To be an operator, as that term is used at present, requires no special training, but a kind of innate shrewdness that deals continually with deception, and is constant struggle to gain the advantage by appearing to be doing one thing while actually engaged in another-a systematic game of brag, a disregard of the interests of every one but self. The success of one is the result o long and patient labor-the success of the other is expected to reward the feverish ac tivity of ten or a dozen years. The one tends to intellectual development, the other nar rows and dwarfs the intellect. The one has rarely blunted moral rectitude, but, on the of mercantile honor thened the foundations of mercantile honor and honesty, while the als, who generally manage to escape punshment, and who look upon themselves as eputable members of the community. Opion trading has the countenance of many orthy merchants, because by joining these gambling associations they have imagined hey were keeping abreast of the times, but he evil tendency has been too clearly demis any value in these expensive lessons of prience, they ought to be heeded at of ex$Y$. Shipping List

United States Miller.

## E. harrison cawker, Editor.

PUBLISHED MONTHLY.
OFfice, Nos. $116 \& 118$ Grand Avence, Milwa uker.
sUBSCRIPTON PRICE-PER Year, in Advance. To American subscribers, postage prepaid
To Canadian subseribers, postage prepard.
Foreilin subseriptions.

[Entered at the Post Office at Milwaukee, wis., a
MILWAUKEE, AUGUST, 1884.
We respectfully request our readers when they
write to persoms or firms advertising in this poper write to persons or firms advertising in this paper,
to mention that their advertisement was seen in the to mention that their advertisement was seen in the
United States Miler. You will thereby oblige not only this paper, but the advertisers.

## See Page 58.

F. E. Curtis, Ess., the manufacturer of the Curtis-Helfrich grain cleaner, at Minne-
apolis. Minn., called on us July 18. He reports the prospects o
to be most excellent.
Messrs. G. S. Cranson \& Son, of Silver
Creek, N. Y., report the number of orders for buckwheat machines to be considerably greater than at this time last year, notwith-
standing the prevailing dullness in nearly all standing the preva
lines of business.
Messrs. Howes \& Ewell, of Silver Cree $k$,
N. Y., sent us a copy of their new catalogue just issued. It is a model of typographical excellence in appearance, and is so arranged erence. Mill owners should write for a copy
at once.

Mr. Frank Clark, formerly of Cawker
City, but now of Bull City, Ks, made us a pleasant call July 17. Mr. Clark is an old
Wisconsin man and takes Wisconsin man and takes great pleasure in
revisiting Wisconsin occasionally. He is one of the early and prosperous settlers of Western Kansas.

We are pained to record the death of Wil-
liam Lehman at Kansas City. He died after ong suffering. Mr. Lehman was well known either personally or by reputation, to almost every miller and mill furnisher in the country as the inventor of Lehman's millstone staff and method, and lastly by his disk machine, which he only perfected a short time previous
to his death. Having lived in Milwaukee since 1876, he was well-known and respected by the trade here. We extend our heartfelt sympathies to his bereaved family, now residing in Kansas City.

Iv a letter from the Geo. T. Smith Midlings Purifier Co., dated July 17, inviting the editor of this journal to be present on the
occasion referred to, we find the following slip from a local paper:
The excursion for the employes of the Geo. T. Smith Middlings Purifier Works will
take place Saturday, July 26 . There will be take place Saturday, July 26. There will be thirteen car loads- 900 people-accompanied
by the Geo. T. Smith band, leave at 6 o'clock by the Geo. T. Smith band, leave at 6 o'clock
in the morning via M. C. R. R. for Detroit. At Detroit the excursionists will take boat for st. Clair, proceeding to that place across
Lake St. Clair, some 30 miles, and up the Lake St. Clair, some 30 miles, and up the
beautiful river of the same name, to the beautiful river of the same name, to the
quaint old town. $\Lambda$ committee will be sent on ahead to make all arrangements for the
culinary and amusement department. It is culinary and amusement department. It is
safe to say that a treat is in store for those attending.

The semi-annual statement of the Millers National Insurance Company, 143 LaSalle
street, Chicago, Ill., July 1, 1884, shows as follows:

## vited states bonds, and Calue. Canh on hand and in in bank..... Oftice furniture and fixtures.

## Total assets

| $105,550.00$ |
| :---: |
| $22,576.89$ |

707,280.42


## .

Losses paid since January 1,188
There has been a marked tendency during the past half year, among mill-furnishers
and mill-builders to cut down the price of machinery, mill supplies and of mill build-
taken for much less than the actual cost to
the builder. This is not a sign of healthy business, nor can it be of benefit to any dealer or builder. "The laborer is worthy of his hire. A good machine is generally worth
the price asked for it by the manufacturers the price asked for it by the manufacturers.
Millers who succeed in getting extraordinary low figures on work may certainly expect to find it of poor quality when they get it Adulteration in all manner of substances Adu teration in all manner of substances
has been the result of the demand of the purchaser for the article required for less than its actual value. That "the best is the cheaptrue.
the geo. t. smith middlings purifier co There is perhaps no more complete manu-
facturing establishment for making special facturing establishment for making special Smith Middlings Purifier Co., of Jackson, Mich., the special machines made by them being the widely known Smith Middlings
Purifier and the Centrifugal Reel. The Smith Co. is capable of taking the raw materials and turning out complete machines without the aid or assistance of any other establishment.
The Smith works, like many other great manufacturing establishments, started from chines; in 1878, $300 ; 600$ in 1879, and in 1880 one thousand, and in 1881 the sales reached 1,000 machines, and in 1883 a slightly greate number.
Notwithstanding the fact that the milling business has been unusually dull during the
greater hat greater part of the present year, we are relia-
bly informed that the sales have largely inbly informed that the sales have largely in-
creased in number up to the present time as compared to sales during same months last
year. year.
Ther
have been large. First all have been large. First, all machinesare con-
structed of the best quality of material and with the most excellent workmanship; and, second, the great number of patents owned by the Company, which makes it as near safe
to buy a machine of them as such things very well can be. When a patent was recently brought out that foreboded some danger to
millers the Smith Co. immediately filed bond with the Secretary of the Millers' National Association, in the sum of $\$ 50,000$ signed by three of the wealthiest citizens of
Jackson.pledging themselves to protect their Jackson.pledging themselves to protect their
customers from all annoyance from patent customers from all annoyance from patent
suits. Such action as this makes the Company very popular with millers everywhere The works of the Smith Co. have been de scribed during the present year in nearly
every milling journal in the world. They are, however, continually making improve ments, the most notable so far during the
present year being the addition of a large new building and a 350 -horse-power Rey nolds-Corliss engine.
The Smith Co. have always treated their employes with great liberality, not only pay-
ing them first-class wages but occasionally ing them first-class wages but occasionally
showing them other courtesies of a marked showing them other courtesies of a marked one of which took place June 26. These courtesies are not misplaced, for it makes the
employe feel as if he was appreciated by the firm, and he is not only willing to work his allotted hours, but if his skill or genius can to give his pecial service he wifnot it. The liberal treatment of sick or disabled emof the by the firm is well-known and deserving wish the Smith Co. unlimited success.

## GOV. WASHBURN'S WILL

The terms of the Wile which has been de-
cided Valid in Two states. Washburn devises to his wife what moneys may be necessary for her support, plaughter, Jeannette, $\$ 7,000$ amnunt. To his a trust fund, and the same amount to his daughter Fannie; $\$ 10,000$ annually for five ye executors; annual payments to be made by the executors as follows: To his brother Israel, $\$ 2,000$; his daughter Ada, $\$ 1,000$; his soughter Mand, the same; the wife of his
son Henry, the same; Adele, wife of Elihu B. Washburn, the same; testator's sister, Mrs. Martha B. Stephenson, $\$ 2,000$; and to her daughter Elizabeth and daughter Martha, $\$ 1,000$ each; to the wife of testator's brother Charles, $\$ 2.000$; her daughter Hester, $\$ 500$; daughter Lillian, the same; son Thurlow, the to Mrs. Buffum, $\$ 2,000$; Ada Buffum, $\$ 1,000$; Frank Buffum, the same; Charles Buffum, the same; Caroline A. Holmes, $\$ 2,000 ;$ Fanny Holmes, $\$ 1,000$; Cadwallader L. Washburn, he same. These payments are to cease after ber of small bequests to members of the ber of small bequests to members of the
family. He bequeathes $\$ 375,000$ to an orphan
lic library in the city of La Crosse; $\$ 50,000$ i The executors are authorized to convey the The executors are authorized to convey the
Minneapolis Mill A, if it has not been placed in corporation as intended, to the Fidelity Insurance, Trust and Safe Deposit Company of Philadelphia, in trust for the benefit of his daughters, Jeannette and Fanny, a certain nually to them the earnings to be made annually to them. The executors are authorzed to make the same disposition of mills $B$ and C for the purpose of making good any deficiency in the bequest for the above mentioned orphan asylum and public library, the
trust fund to be held for the general benefit rust fund to be held for the general benefit of the estate and of the residuary legatees
mentioned. The same provisions are made with reference to the Black River lands as hose in reference to the mills. If the mills, lands and sawmill are put into corporations, then out of the Minneapolis mill stock, foursevenths is to be put in trust for the benefit of the estate heretofore mentioned. A certain portion of the land and sawmill stock is to be placed in trust for the same purpose. The residuary property to which the residqual parts, one entitled, isdivided into two daughters and the other to brothers and sisters and their children. The value of the at $\$ 700,000$

## COMPETITION OF MARKETS

Markets that are common to various points of production or supply, control the rates which may exist with any one of them. The owest rate to the market by any route conrols the rates by all the other routes. Th principle is well shown in the statement of of England.
"It will fairly illustrate to you," he says the practice with regard to some of th the position of Birmis country, if I explai fordshire, which is angham and South Staf district of about twelve miles ively smal contains a population of upward of $1,000,000$ persons, and therefore consumes large quan tities of foreign as well as home-grow grain, etc.

This district can be and is supplied from Liverpool, a distance of 98 miles; Gloucester 53 miles; Bristol, 90 miles; Newport, 98
miles; and Cardiff, 110 miles (taking Bir miles; and Cardiff, 110 miles (taking Bir
mingham as the place to measure to.) It will be seen that Gloucester is the neares point, and as it is connected with Birming ham and South Staffordshire by river and canal navigation, as well as by railway, the
cost of conveyance of American grain is cheapest from that of American grain is rates from Bristol, Liverpool, Cardiff and Newport have to be fixed so as to enable these points to compete with Gloucester.'
The cost of American grain is probably the same at each of these various points which may supply the market; so that the route having the longest haul can charge no Though they are not parallel lines, yet a they go to the same market they come direct y in competition with one another
The same rule aids in determining the rates on grain and provisions from various and the points in America to the seaboard, "The United Kingdom," we are told, "is the Indian corn market of the world. All the wheat consumed in that Kingdom is from foreign countries." In this market the chief competitors of the United States are Russia, Germany, Egypt, Australia, Canada and India. Frocl the fields of production in the by competition with the different routes to the various countries mentioned. The rate from Odessa, on the Black Sea, to Liverpool affects the rate by sea from California, as well as by rail from Dakota
Now, if the cost of production in Dakota and the supply in either to meet the lime rate from Dakota to Liverpool Britain, the same as the rate from the place of produetion in Germany to Liverpool. If it were netion low, Dakota would send no grain to that market. If however as is grain to that of production in in er, as is the case, the cost Germany the ress than in would be the rate from the former place production in the mart ene or the production in the market. Now, transporta mark a part of the cost of production in the market. In the place where grain or any other raw material is produced, transportation is, of course, no direct element in its cost. But at the place of production it is That from must be brought to market. That, from necessity, involves an additiona part of the cost of production in the market part of the cost of production in the market. of the markets in regulating the rates of
transportation. This cost of production other things being equal, determines who
shall sell, and in what quantities. shall sell, and in what quantities. The sell-
ing price of a commodity is there ing price of a commodity is there determined by the competition of all sources of supply which the market has. These may be so close at hand that the transportation is an unimportant item; or may be in the place it self, in which case the transportation is no factor. To meet such competition the trans portation company is compelled to fix its rates so low that the articles produced at a distance can be brought to the market at a profit to the producer.
This force of competition enters into the determination of the rates on nearly all commodities, and in nearly all places. It operates most powerfully upon those things which are consumed in the largest quantities, since for these there is the greatest demand and the greatest competition in their sale. It tends to reduce to a minimum the rates on grain provisions and coal, and affects least the rates on silks, broadcloth and wines. It results in differential rates, which, while they cause complaint from some, are a source of the greatest benefit to the many. It produces competition between places where otherwise none exists; brings competition to commodities which before were monopolies. And so in its effect, by constantly tending to reduce the selling price, it restricts profits more and more, and brings into stronger play the orces determining the cost of production. Hence result an action and reaction which continually tend to reduce the price of com-
modities to consumers.-Gerrit L. Lansing in North American Review
the future of wheat raising.
There is in the attempts of England to secure a safe road to the heart of Africa some-
thing suggestive of new competition which American farmers will, within a few years have to meet in the grain markets of the Old World. A few years ago it was thought that India could not produce enough wheat to seriously affect prices in America. Very few people now hold such an opinion, in face of the fact that, with a crop of $85,000,000$ of bushels short, the price of wheat sank 18 cents beow that of the when our wheat crop was hat test known. This decline indicates ompete American farmer cannot prontably yots of In the fellahs of will it be when England shall have opened a safe and short road to the vast fertile districts in Central Africa described by Livingston and Stanley, where millions of natives, with a very crude system of husbandry obtain food in abundance? When England shall have assumed the power to "protect" the people of those regions policy will no doubt do, then her usual become practically slaves, and will be "encouraged" to produce great quantities of grain to exchange for English rum and calico.
No white man knows the extent to which Africa can be made to contribute to the supply of food for the civilized world, but it is safe o say that the next quarter of a century will do much to open the eyes of the world upon this point. That the result will be pleasing to the grower of wheat on this continent may well be doubted. If, with the lesson taught by the East Indian record, the American armer cannot see coming events clear enough o lead him to adopt methods of farming which will make him comparatively independent of the world's wheat market the fault will hould own. That the time has come when he but $2,000,000$ bushels of whe fact that in 1879 y British India? in 1883 tho we exported 000,000 Hura, 1883 those exports were , 0 , 0 bushels, ear's dencit in American exports of last car's surplus of wheat. "The East Indian $20,000,000$ acres; and it is said that $56,000,000$ ,00, 0 anes, and it is said that $56,000,000$ tivated, will to to be appropriated. The Home Government is prosecuting improvements to develop this viluable domain, among them a new canal 502 miles long, which will irrigate 780,000 acres through 2,500 miles of minor channels. Projected railway extensions also have the same end in view; and the second Suez Canal, for which concessions have been granted, only awaits the end of the war in the Soudan for its inauguration." By improved machinery with which to cultivate the ground and reduce the cost of harvesting the grain much may be done. It is a reproach to American inventive genius and American manufacturing enterprise that the single plow, or at best but two or three plows can be successfully used in preparing the ground, and that we are stil dependent upon the muscular and very costly force of the horse for motive power in most farm operations, especially in preparing the ground for crops. It is a reproach to the whole people that, through the want of good highways, and of proper control of the rail way systems of this country, the cost of put-
ting the produce of our fields into marke
should be so great. England manages to $\begin{aligned} & \text { as well as foreign trade. We have probably } \\ & \text { done less newspaper advertising and had }\end{aligned}$ bring fir in the and of India into direct competition withe ability and manufacturing skill of A merica; and America seems to have got the worst of it in the trial. She is handicapped by the enormous burden of taxation imposed by transportation companies which, while they reap great profits, defy control.
But improved means for wresting from the earth her bountiful gifts will not long enable the American farmer to hold his place in the grain markets of the world. They wickly the serve to help him exhaust more quickly the account placed to his credit by Nature-an account against which he constantly draw and to which he adds little. The end of thi reckless way of acting must come, for the ac count will soon be exhausted. In some of the Eastern and Southern States the accoun was long ago overdrawn; but the West give no heed to the lessons taught by

## english milling statistics

According to the last census the population of England and Wales numbered $25,974,439$ in 1881, against $22,712,266$, in 1871 . During the last ten years the number of the agricul tural population decreased by 273,954 , while the manufacturing population increased by 1,235,642. The number of millers decreased from 29,720 in 1871, to 23,162 in 1881, while the number of grain and flour dealers was, during the same time, reduced from 11,964 to 8,180 . On the other hand, the lists of bakers increased during the ten years from 52,733 to 1,032 , and that of the confectioners from 9,337 to 12,483 . Millwrights, who numbered 881. The number of foreigners employed in England in this branch of industry is remarkably small, only two in 1871, and only ne in 1881. In the other branches we find only 13 foreign millers and os foreign grain ers and 43 grain dealers in 1871. Among the ers and 43 grain dealersin 87 . Among beter akers the 1871 there were 1,370 foreign bakers employed in England, and this numer rose to 2,143 in 1881 ; more than 90 per ent. of the foreign bakers are Germans. Among London's population in 1881, of ,816,482, were 419 millwrights, and 2,014 flour and grain dealers. In 1871 , with a population of $3,254,310$, London held
456 millwrights and 940 millers. Whether 456 millwrights and 940 millers. Whether this general decrease in the number of men lateral branches throughout England is due to improved machin not be determined from the simple figure which are so far available. The probabili ties, however, are that much of it is due to for we find a like decrease in the number of persons employed in the milling industry of this country, during the decade from 1870 to 1880. In 1870 we had 22,573 mills which em ployed 58,448 hands and turned out $\$ 444,985$, 143 worth of flour, while in 1880 we had 24 338 mills and produced $\$ 505,185,712$ worth o flour, with only 58,407 hands.-Miller an Manufacturer.

## the becker wheat brush.

No pent-up America contracts the trade in Becker wheat brushes," observed the president of the Eureka Mfg. Co., of Rock Falls, Ill., to a representative of the Modern loading of one of the renowned cone-shaped loading of one of for a South American city. "This is our third foreign shipment this this son smutters and brushes to Bavaria, and within the ters and brus we have shipped machines to Buenos Ayres, Austria, and Germany.
"For what point in South America is th machine intended

It goes to Quito, in Ecuador, and from here to some point above it in the Andes Mountains.

What in the name of-comprehension do they want of a Becker brush te
housand feet up in the Andes?
For the same purpose, I suppose, for which they are used at the base of the moun ains or anywhere else said the scribe w
You don't say so," said the scribe, with
winge in his good ear.
"How are they going to get the thing up the mountains ?
"By pack mule transportation. The machine is packed in parts, each part being put up in a separate box. This is not the first machine we have sent to that region. We are having a good trade in South An
Come in and look at our order book.
The scribe followed the president into the
office and received satisfactory proof of the office and received satia
truth of his assertions.

You must not think," said Mr. Galt, be cause we do not boom our machines by pyro technical advertising, like some of our com petitors, that we are not having a large home ewer traveling agents for the past five years than any other concern in our line. find our business steadily increasing. You see it doesu't take so much advertising to sell our machines as some others require The Becker is the only practical cone-shaped bnowh in the market, and no miller of machinery and the necessity of thorough wheat cleaning can fail to recognize the correctness of the principle upon which it works.

What do you claim as the chief advan"ges of your machine over others?
That it has from two to four times more brush surface and will clean the wheat more while it requires less power to operate it The bristles composing the brushes being onger, they will outwear those in any other machine. Some of our machines have been in use since 1873 , and no new brushes or re pairs for them have yet been called for
"How are you doing with your combined rush and smutter?

Well. It is now in use in a large number of the best mills in the country, and is givng entire satisfaction. Just now we are re whom this machine is particularly useful. It whom this machine is particularly usefu. It well, and saves expense. By examining it you will see that it has large capacity. Ou wheat per hour, and clean it well. The iron smutting surfaces of the cone alternate with the brushes, the latter occupying about

case has alternate sections of steel wire and perforated metal. the vendiation a thorough, the fan at the top drawing a trong current of air through the marges it which carries off the dust and discharges
outside the building. Running our No. 2 at 50 revolutions, the wheat glides over the brush and scouring surfaces to be well cleaned, and no faster.'

How many sizes do yo iffer
We manufacture six different sizes, the capacity of the smallest machine being from ten to fifteen bushels per hour. We warran and if after a trial of thirty days a machine does not do all we claim for it, the miller is at liberty to return it to us without cost to himself.

How many workmen do you employ
We manage to keep fifty men busy th year round."
The reporter took a stroll through the works and came away satisfied that the Eureka Manufacturing Co. was having its
share of business.-From The Modern Miller.

## NEWS

Burned.-Hamilton's Mill, at Paris, Tex.
Minneapolis, Minn., is to have glass works.
Burned.-Wells \& Cosgrove's Mill, at Belleville, Burned
Virginia.
The Galt Mil
atmeal mill.

## Burned.-July Thorntown. Ind.

## The Rollins Middlings Purifer Co., is the nain ew mill-furnishing company at Minneapolis,

Burned.-June 26, H. Geier \& Co.'s mill at Forest ville, Door Co., Wis. Loss, 815,000; no insurance. The Planet Milling Co., with a capital of $\$ 100,0$ will earry on the milling business at Litchfleld, II . Burned.-Beach's Mill, at West Winchester, Ont.
July 12. Loss estimated at $\$ 20,000$, with no insurance Hurlbert \& Gorf will build a mill at Superior, Wis.
he mill will start out with a capacity of 75 barrels.

The Case Mfg. Co., Columbus, O., have lately olls with patent automatic feed.
Burned. -"The old kul mill", at Albany, N. Y., July 7. The mill was operated by A. McDona.
owned by the Irwin estate. Loss about $\$ 30,000$.
Messrs. H. A. Hayden \& Co., Jackson, Mich., have
ordered a 20x42 Reynolds-Corliss engine of Edw. P. Allis \& Co., of Milwauke
Messrs. Edw. P. Allis \& Co. are building a new $16 \times 42$ coming exposition at St. Louis, Mo.
Burned-July 5 , the Newark Machine Co.'s Works
at Newark, 0 . Loss. $\$ 400,000$; insurance, $\$ 250,000$. Three hundred men are thrown out of employment.
Messrs. Kindell \& Stewart are putting in a new P. Allis \& Co., Milwaukee, in their factory at Denver, P. Allis \&
Colorado.

Goold Bros., of New Windsor, Ill., have lately re-
moved their mill to Howard, Dak., and have ordered four additional pair of rolls from the Case Mfg. Co.

The Richmond (Ind.) Machine Works, in process of
building, consists of a machine shop, foundry, and blacksmith shop, and a wo
it will be completed
The manufacturers of milling machinery at Jack-
son, Mich,. all report trade good and are running o
full time. They anticipate a lively trade during the
ning fall and winter.
The Case Manufacturing Company, Columbus, O.
have lately furnished Butler \& Brenner, Wheatland
Ind., with two pair rolls and one No. 1 double purifier
Messrs. Edw. P. Allis \& Co., of the Reliance Works,
Milwaukee, Wis., have orders for a three million and
niso a milliou and a half gallons pumping engine fo
the city of St. Paul, Minn., and the work is well unde
way. The engines will be Reynolds' compound con-

## The was

The westinghouse automatic engine is rapidly


On o
on the
 wheat. Drawings of this design will be ready for
submission to the association in about two weeks. submission to the association in about two weeks.
Other parties are also to be conferred with for the
purpose of getting designs and prices. The Case Manufacturing Company, in sending
their counter-blast against the Smith Purifler Co
which is found on another page in this paper, their counter-blast against the Smith Purifler Co.,
which is found on another page in this paper, take
occasion to inform us that the fine wheat harvest has already made an influx on many others. They state they are running full blast and that their business
was never in more healthy condition, barring the was never in more healthy condition, barring
usual tardiness in collections. Millers that woul
have done nothing this year, now that the harve have done nothing this year, now that the harvest
promises so well, are in big hurry to get in new ma-
chinery ready for the new wheat.
The Case Manufacturing Company, Columbus, O have received the following orders during the past
month: From Wm. Peter, Columbiaville, Mich., for
for four pair rolls with patent automatic feed, three im-
proved Case centrifugal reels, and other machinery From J. C. Cranshaw, Charleston, Mo., for one "Little
Giant" break machine and scalper, making thre Glan break. From J. B. Miller \& Co., Ashley, O., for
separations.
one additional pair of rolls. Through the Richmond one additional pair of rolls. Through the Richmon
City Mill Works, Riehmond, Ind., one "Little Giant break machine, for Samuel McCray, Clinton Valley
Ohio. From A. J. \& F. E. Davis, Shaftsburg, Mich.,
for. for rolls and other machinery. From Simmons \&
Sewell, Virden, II., for two pair rolls with patent
automatio feed. From A. H. Coppack, Pleasant Hill automatic feed. From A. H. Coppack, Pleasant Hill,
Ohio, for two pair rolls with patent automatic feed. From E. S. Tacy, Golconda, III., for two pair of rolls
with automatio feed. From J. K. Mullen \& Co., Denwith automatio feed.
ver, Col., for two additional No. 1 double puriflers.
From Geo. Graham, Trenton, Mo., for two pair rolls with automatie feed
The Jacksm (Mich.) Daily Citizen, of July 5th, con-
tained the following notice, which speaks highly for he liberality and patriotism of the Geo. T. Smith Middlings Purifler Co.: The display of the George T. Smith Madargs warmly commented on. Mr. Geo. T. Smith and Geo. S. Bennett rode at the head of their division of the procession, and they would have been proud i they could have heard the warm comments of ap proval. The public hardly realized the magnitude or che concern until they saw yesterday's demonstra-
tion. The great trueks with the puriflers, the cornet band composed of employes of the establishment,
and the men in line from that factory numbered 350 . ness ha
larger.

The exhibit of the vastness of this enterprise shows
its greatness. It will be remembered that nearly as large a factory of the company is located at Stratord, Ont. The company eminently deserves its prosperity. Mr. Geo. T. Smith, whose genius and enterprise laid the foundation of this great business, with his able associates, have built up a trade which
reaches nearly all portions of the world. This busi-
ness has hardly started, and will each year grow

A terrifle boiler explosion occurred June 27, at Stryker, O., in the flour mill operated by Brownel
\& Haefer. About forty men were employed in the mill at the time, ana the explosion was so terrible to atoms, and among its debris were buried twentycated in a dying condition. Edward Foster, E. R Ayres, James Tasher, J. H. Brennan, James Stull, W Roop and Frank Douglas, killed; J. Ramsey, John
Weller and Michael Cooney, mertally wounded. BeWeller and Michael Cooney, mortally wounded. Be-
sides these about eight others were seriously injured, while nearly every person in the mill was more o that pieces of the boiler, machinery and stones from the wall were hurled through the air a distance of
quarter of a mile. One piece of the boiler, about three feet square and weighing probably more than a hundred pounds, was sent flying through the roof
of a house at that distance from the mill. 1t took nearly the whole roof off, and the falling timbers
seriously injured Miss Nellie Winters and George
Win Winters, two of its occupants. The cause of the ex plosion is not known. Ed. Foster, the engineer, was
thrown nearly three hundred feet. He was terribly scalded and mangled but lived for three hours. E
R. Ayers, his assistant, was hurled through the roof The following orders were received by Messrs.
Edw, P. Allis \&Co., of the Reliance Works, MilwauEdw. P. Allis \& Co., of the Reliance Works, Milwau-
kee, for their celebrated roller mills, during the past four-break reduction machine and four pair Allis
rolls in Gray's noiseless belt frames. The Hudnuts, Pekin, III., a Gray's noiseless belt roller mill. Messrs.
Packard \& Foote, Middleton, Idaho, three pair Allis rolls in Gray's noiseless belt, frames, and other special
machinery, etc. M. Joplin, Longwood, Mo., a Gray's noiseless belt roller mill. Through Woil \& Hamaker,
Allentown. Pa.: Ten pair Allis rolls in Gray's
noiseless belt frames, for J. H, Snyder, Hanover; eight pair Allis porcelain rolls in Gray's noiseless
belt roller frames, for E. K. Fried \& Co., North belt roller frames, for E. K. Fried \& Co., North
Wales, Pa. Meyer, Luebbert \& Co., Holland, M., a
Gray's noiseless belt roller mill. Stanton, Stoner \& Co., Painterville, Pa., ten pair Allis rolls in Gray's
noiseless belt frames, also bolting and scalping
hests, and machinery necessary to remodel theis. chests, and machinery necessary to remodel their
mill to the roller system. Acme Milling Co., Olean,
N. Y., two pair poreclain rolls in Gray's noiseless
belt frames. Through Milford \& Northway, Minneapolis: A Gray's noiseless belt roller mill, for S. Nel-
son, Vasa, Minn; four pair Allis rolls in Gray's
oiseless belt frames, for McMillan \& Martins, west Salem, Wis. Geo. Franger, Pleasant Unity, Pa., a
No. 2 four-break reduction maehine and four pair
Allis rolls in Gray's noiseless belt frames. Oscar

$$
\begin{aligned}
& \text { Stevens, Clear Lake, Iowa, six pair Allis rolls in } \\
& \text { Gray's noiseless belt frames. A. Phelps, Delavan, } \\
& \text { Wis., a Gray's noiseless belt roller mill. Topeka Mill }
\end{aligned}
$$




$\qquad$
$\qquad$
$\qquad$ and other machinery necessary to fit up his mill in
good shape. E. Cutler, Ridgeway. Ont., a No. 2 four-
break reduction machine, Gray's noiseless belt roller mill, and complete outtit. Through Bradford Mills Co., Cincinnati, O.: Six pair Allis rolls in Gray's
noiseless belt frames, for Wilson \& Beardsley, Hunt ington, W. Va.; a Gray's noiseless belt roller mill for
J. A. Humphrey \& Son, Charleston, w. Va. W. Pol Jock \& Co., Mexico, Mo., six pair Allis rolls in Gray's
noiseless belt frames. Frank Bilernitz No Wis., a porcelain roller mill in Gray's frame. Lough ny Bros., Monticello, Ind., a Gray's noiseless belt
roller mill. H. Resener \& Co., Cheshire, Ohio, eight
pairs Allis rolls in Gray's noiseless belt frames, with pairs Allis rolls in Gray's noiseless belt frames, with
necessary machinery for a complete outflt. Through the Great Western Manufacturing Co., Kansas City:
A Gray's noiseless belt roller mill for J. C. Mohrman Co., Syracuse, Neb. Through Ypsilant Machine
Works, Mieh.: Eight pair Allis rolls in Gray's noiseless belt frames, for L. M. Marshall, Perry, Mich.
Through Bass. Fdy. and Machine Works, Ft. Wayne Ind.: A Gray's noiseless belt roller mill, for C. R.
Cooley \& Son, Hartford City, Ind. Canon City Milling noiseless belt roller frames, with necessary ma
chinery to make a complete outfit. Camp, Geiger \& Beebe, Union City, Pa.. a porcelain roller mill in Gray's noiseless belt frames. Middleport Flour Coil,
Middleport, Ohio, a Gray's noiseless belt roller mill. Webber \& Sons, Florence, Neb., a No. 2 four-break
reduction machine. Daisy Roller Mills, Milwaukee a Gray's noiseless belt roller mill. Jas. Huxtable, Hornings Mills, Ont., ten pair Allis rolls in Gray's
noiseless belt frames, and complete outflt for full
roller mill. Stanford, Logan \& Co., Black Earth, noiseless ill. Stanford, Logan \& Co., Black Earth,
roller mis., six pairs Allis rolls in Gray's noiseless belt
frames, together with special machinery to reflt the
frement frames, together with special machinery to refft the
mill to the roller system. Through the Kichmond
City Mill Works: A Gray's noiseless belt roller mill City Mes Works: A Gray's noiseless belt roller mill,
for Messrs. Logan \& Logan, Shelbyville, Ky. Messrs.
Chas. E. Hall \& Co., Indianapolis, Ind., four pairs
Allis rolls in Gray's noiseless belt frame. Chas. E. Hall \& Co., noiseless belt frames. F. A. \&
Allis rolls in Gry's not,
L. K. Bean, Faribault, Minn., a Gray's noiseless belt roller mill. Messrs. Tunnel Bros. \& Co., Big Stone
City, D. T., seven pair Allis rolls in Gray's noiseless belt frames. Andrew Bowling, Staunton, Va., a
Gray's noiseless belt roller mill. Chas. F. Neeson, Sedalia, Mo., six pair Allls rolls in Gray's noiseless
Selt frames. J. R. Stauffer \& Co., Scottdale, Pa, Gray's noiseless belt roller mill. Schroeder \& Trottman, Cedarburg, Wis., a Gray's noiseless belt roller mill. Through the Thayer Manufacturing Co., West
erville, 0.: A Gray's noiseless belt roller mill, for Kembell \& Sons, Greenfield, Mo. J. K. Mullen \& Co.,
Denver, Colo., another Gray's noiseless belt roller Denve
mill.

## THE UNITED STATES MILLER

United States Miller.



MILWAUKEE, JULY, 1884.
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## We send out monthly a large number of sam- ple copies of the UNITED STATES MILLER to millers who are not subscribers. We wish them <br> cordial invitation to them to become regular subscribers. Send us One Dollar in money or stamps, and we will send THE UNITED STATES stamps, and we will send THE MILLER to you for one year.

(5) The United States Consuls in various parts of the world who receive this paper, will please
oblige the publishers and manufacturers advertisoblige the publishers and manufacturers advertis-
ing therein, by placing it in theiro offices, whereit can be seen by those parties seeking such information
as it may contain. We shall be highly gratified as it may contain. We shall be highly gratified
to receive communications for publication from
Consuls or Consular Agents everywhere, and we Consuls or Consular Agents everywhere, and we
believe that such letters will be read with interest,
and will be highly appreciated. Cawker's American Flour Mill and
Mill Furnishers' Directory for 1884 published by E. Harrison Cawker, of Milwaukee,
Wis., and sold for ( 810.00 ) ten dollars per copy, is
now ready for delivery. It shows the result of an
immense amount of studious attention to details. It is without doubt
the most accurate trade directory ever published, and will be of untold value to those desiring to reach
the milling industry of America. We glean from this neat volume of 200 pages con-
taining no advertisements, that there are in the
United States of America and our neighboring minion of Canada 25,050 flouring mills, taking them as
they go great a and small. The work indicates in about
10,000 instanes 10,000 instances the kind or kinds of power used by
the mills, and the capacity in barrels of flour per day It further indicates cornmeal, buckwheat, rye-flou
and rice mills. It shows that the number of mills in
the various states and territorie of the United Stat are as follows: Alabama 453; Arizona 17; Arkansa
343; California $222 ;$ Colorado 54; Connecticut 288; Da-
kota 81; Delaware 98; District of Columbia 5; Florid
 tucky 73; Louisiana 61; Maine 280; Maryland 353;
Massachusett $340 ;$ Michigan $846 ;$ Minnesota 487 ;
Mississippi $386 ;$ Missouri 1025; Montana 21; Nebras-
ka 250; Nevada 13; New Hampshire 182; New Jersey ka 250; Nevada 13; New Hampshire 182; New Jersey
42; New Mexico 32; New York 1902; North Carolina
848; Ohio 144; Oregon 145; Pennsylvania 3142; Rhode
Island 51; South Carolina 274; Tennessee 801; Texas Island 51; South Carolina 274; Tennessee 801; Texas
703; Vtah 110; Vermont 247; Virginia 781 ; Washington
Territory 61 ; West Virginia 447; Wisconsin $77 \%$
w yoming 2. In the Dominion of Canada we find the record as
follows: British Columbia 17; Manitoba $54 ;$ New
Brunswick 198; Nova Scotia 102; Ontario 1180 Prince Brunswick 198; Nova Scotia 102; Ontario 1160
Edward's Island 39; Quebee 531. Total 25,050. Taking the work throughout, and it is highly in
teresting to all concerned in the trade, and we take
pleasure in recommending it.

The failure of Dawson Bros., of Wilming-
on, Del., has been announced. It appears ton, Del., has been announced. It appears
to be a bad failure and is said to be the result of taking contracts too cheap.
Messhs. Maher \& ECKSTEIN will soon
publish a Gazetteer of all the towns and publish a Gazetteer of all the towns and
cities located on the Wisconsin Central Line, from Milwaukee to St. Paul, and Portage to Ashland, which will give in detail the history, industry and products of each town on directory of the leading business men. The work will be issued under the supervision of Wisconsin Central Railway, and will be distributed as a souvenir, free of charge, upon to St. Paul. The publication will be a model one in every respect, and will be beautifully
illustrated with new cuts and abound in pleasing descriptive matter. The value of great and we trust Milwaukee business men will not be slow to take advantage of it.

## GRAHAM AND WHITE FLOUR.

It is doubtless well known to most people
that the manufacture of flour has undergone that the manufacture of flour has undergone day, instead of the old millstone, rollers made of steel or chilled iron are used, and the
wheat is reduced to flour by several sucwheat is reduced to flour by several suc-
cessive breaks. By this method nothing goes into the flour-barrel but pure flour
Those who recommend Graham flour do so nutriment in the bran. There is no more nutriment in it than in a piece of flint, as it is nothing but pure silex. It is absurd to tleman after whom it was called did not recommend its use as food except in certain cases
says:
"Coarse wheaten bread may do very well

| for those who are troubled with constipation | main long enough in the stomach for its nour- |
| :--- | :--- | :--- |
| by mechanically irritating and exciting the |  | stomach and bowels. Yet, for that reason, it is wholly unfit and improper for those who

are afflicted with chronic diarrhoea. Anothe are afflicted with chronic diarrhœea. Another
objection is that, although bran may serve, like other mechanical excitants, for a while to relieve constipation, yet it soon wears out
the excitability of the organs and leaves them more inactive than before.'
What do Graham's disciples say to this? Several other passages of Dr. Graham's works could be quoted to show that whole everyday is not only unhealthru as a destroys the coating of the stomach.
Let us see what science teaches about Grathrough a microse a grain of wheat, view it A rough, bristling structure as shaggy as the bark of an old oak, much dust and dirt, many insects' eggs stored away in the crevices, and
shaggy hairs on one end that hold in their shaggy hairs on one end that hold in their that these substances could not be designed for human food, and you know that they are not food. Chemistry indicates nothing nutrifrain is these shells, and even the flavor of the in your mouth, and the particles of glassor that is what they are-burrow into the membranes, and irritate and inflame them so not good for food. If every atom of inert matter could be eliminated from substances swallowed, indigestion would be unknown; the great object in eating is to take food and nothing else. Harsh substances cannot be
mixed with food without a serious loss of the mixed with food without a serious loss of the
food portion which passes through the alimentary canal unassimilated by reason of its Exhaustive
Exhaustive tests have proved that not less
than one-half of the real food contained in Graham meal passes unchanged. The bran is wonderfully potent as an irritant, and its action in the stomach is that of a cathartic. Catharsis is depletion; and habitual depletion should, of course, be avoided. It will always emulsified, and without emulsification assim lation is impossible. The habitual employment of substances which cannot be reduced to a pulp is to lessen the stomachic and inan emulsify wheat-hulls or bran, it follow that they should not be sent there. They could not be boiled to a pulp in water in tic alkali or mineral acid.
Examine the substance voided from cattle hat have swallowed these hulls. They wil e found unchanged. Their needle-like point edges dulled. This is why they are removed from the flour. The same reason induces us to remove the skin from the banana and the bility. Let the dyspeptic give up his pills and his bran food and take healthy food an exercise and he will soon recover. When a
person commences on a bran food, a little is sufficient; but after a time the dose must be increased making the drain on the system
enormous. The fluid poured into the alimentary canal to protect it against the blistering effect of the scratching power of the irritant must inevitably sap the vital powers.
Besides this, the important part of the digestive process performed in the stomach is no perfect in consequence of the excess of harsh
material: the sensitive stomach declines to contract upon and agitate a mass of food which bristles with thorny points. It may
attempt it, but it will no more continue to attempt it, but it will no more continue to
discharge that important function with ener gy than one would consent to close his hand a second time upon a cushion of concealed needles.
Another reason why bran is not healthy is covered by shown that the good or bad color, the fine ness of texture, or even the flavor of bread depended on the absence or presence of cerealine is contained in the cells of the inner most membrane of the bran, and its dark or ing bran with flour. The result in baking is not what might be expected, white bread with flakes of bran in it, but a distinctly brown tious fhe best, the whitest, and most nutri quently no bran.
What Dr. Graham meant was, as it was al nost impossible to retain all the mineral vita of milling in vogue in his time thour by modes better to use the meal with the bran in it than o lose the phosphates. But since his day, and it is known chemistry since his day, and it is known beyond any
doubt, that what is gained by having all the phosphates introduced with the bran is trebly lost in consequence of the positive disadvantage of the bran not allowing the food to re-
shing properties to be duly absorbed and

## SOUTHERN PROGRESS UNDER THE TARIFF.

## (By John W. Hinton, of Milwaukee.)

Conversing with the president of a western college that does not teach Free Trade, the writer was told that the president, when in England during the previous summer, was against the evils of the who at once raile "Do you observe", of the American Tariff manufactures are being developed in the Southern States?" Mr. Bright replied, "yes, but New Lates? Mr. Bright replied, "yes, "Oh no," rejoined the A soon destroy those." on no," rejoined the American, "she won't because she furnished the capital with which Bright, and all furtoped." "Ah!" said Mr The next and further conversation ceased The next day, while the college president wa passing through the members' lobby of the House of Commons, Mr. Bright extended his hand very cordially and said: "That was
very strong point you made yesterday, a ver very strong
strong one"

The development of the South, within the past five years, has been marvelous, and thei wise men realize the true cause of its pros perity. Read the following from the Ho Blast, published at Anniston, Alabama:
WHY WE WERE POOR.
We often hear our Southern people talking abou
the immense fortunes that were swept away from the immense fortunes that were swept away from
them by the war. This is especially the case with
some of the younger people, who, recollecting the number of negroes their parents owned, take that as
a basis of what would have been their wealth if the negroes had not been emancipated. It is a pleasan recollection, and we do not care to rudely destroy
this fabric of their pleasant memories of the "good
times before the wr" but do so that we may see how we stand to-day. The
South was not rich before the war. It is a fact tha in nearly every Southern State stay laws were in ope
ration when the war began. Our people were heavily in debt, and it was the exan. Our people were heavily
inat found a farme whose negroes and lands were not encumbered. So
universally was this the case that in Georgia, in 1858, a state law was passed, staying the collection of
debts. Why was this so? lt was because we were purely an agricultural community; we had no manufactories in the South of any note, but depended on
the North and Europe for everything we used, even to a great many things we consumed on our tables.
$\qquad$
$\qquad$ control over an able-bodied man's labor and loco tion, for the small sum of a peck of meal, three and a
half pounds of bacon and a plug of tobacco per week, of cotton clothing a year. Srurely the labor was
cheap enough, and yet we did not make any money in farming; if so, why these stay laws, and why was
the country in debt? Our northern friends were all this time accumulating vast sums of money by man-
ufacturing goods and selling them to us. They were facturing goods and selling them to us. They were
growing rich under the beneflcent operation of a
wise protective tariff. Now that the South has into a position to reap like benefits from a tariff, is it
wise for us to even agitate the return to free trade?
Are we not wise enough to see what protection Are we not wise enough to see what protection has
done for the industries of the North ? And now that like industries are springing up all over the south,
lithe
hat can manufacture under auspices than did the North before the war, would it
not be worse than suicide for us to talk about free trade? It does seem as though we ought to learn
something from our experience, and from what we
see the North has actually accomplished. The vaults of the North has actually accomplished. The vaults
ver, as the South's will bee if the with gold and sil-

Fully $\$ 57,000,000$ have been sent to the South since January 1, 1884. Mr. Harry M. Hill,
said:
In the year 1870 we find that the state of Alabama Arkansas with 488,000 against 802,000; Mississippi with 87,000 against $1,131,000 ;$ Tennessee with $1,258,000$
gainst $1,542,000$. The increase in all the ern States is in keeping with the above. Texas, like Arkansas, has almost doubled her population, having
increased in the same length of increased in the same length of time from 818,000 to
$1,591,000$. The increase in all the Southern States since

## Mr. Hill continues:

Being an agricultural people the South contented
herself with this pursuit; to her manufacturing was unknown. With the aid of free labor she could raise and ship her raw material and pay the cost. Upon
the other hand New England, which held the monopoly other hand New England, which held the monop-
of the cotton mills, cared nothing for the freight oly of the cotton mills, cared nothing for the freights
in getting the raw material to her doors, but time profits can be mas by planting the factor great were, in the fields
aere the staple is grown.
And as a result of this discovery, we have to-day,
south of Mason and Dixon's line, 364 cotton mills, the nnual product o
um of $\$ 40,000,000$.
Over $\$ 25,000,000$ of this income has been spent in the
North for machinery alone. It is gratifying, however,
to be able to announce that at Memphis, Atlanta Chattanooga, and at other souph
machinery is now being made
As an evidence of the success attending
ufacture in the south, I refer you to the Eagle and
Phœnix Mills of Columbus, Ga . This mill has a eapt-
tal stoek of $\$ 1,250,000$, and notwithstanding the extra
ordinary expenses it has incurred of late and the ter-
rible depression in cotton goods within the last year
it
has cleared and pald a cash dividend of 8 per cen
It was organized in 1887, has built improvenent
osting over $81,000,000$, paid out in
costing over $\$ 1,000,000$, paid out in improvements
$81,370,000$, and strange as it may seem, has on hand
to-day a large surplus in its treasury. In fact, it it
said to be the largest cotton mill in the Progress of the last three ybars. 1880 was only $\$ 21,000,000$, yet we find in 1883 the value in ranging between $\$ 35,000,000$ and $\$ 40,000,000$.
In addition to
In addition to this immense amount of capital thus
invested, a fabulous amount has found its invested, a fabulous amount has found its way int duct unknown and considered worthless in ante bellum days.
And while
And while we have made these great changes in
our manufacturing purnd our manufacturing pursuits, we have not gone baek ton, hogs and hominy has gone steadily field of co In the States of Alabama, Arkanses,
gia, Louisiana, Mississippi, Tennessee and Texas, in 1879, there were in operation 11,604 miles of railway,
We have now in the same States, running at a fair We have now in the same States, running at a fai
proftt, 17,891 miles, showing the enormous increase in the brief space of four years, of 6,287 miles.
Along the lines of these great railways towns and traveler is struck with the change.
In the states of Alabama
Georgia, Louisiana, Mississippi, Tennessee end Texas e find that the progress of these states for the past 000,000 , and while it increase in value, is over $\$ 500$, increase of the mineral products of the south, yet 1
beg leave to say that from 1879 to this period the out eg leave to say that from 1879 to this period the out four to nineteen minceased from
nd by way of an incidental touch upon the lumber time, it has increased her yield over $\$ 6,000,000$.
The agricultural statistics show that the raw pro-
ducts raised in these eight states alone, including umber, cotton and wool, have increased within the last four years $8567,000,000$.
This progress has
and naught but civil and suicidal legislation arrest its progress. It will continue as irresistably
as the flow of our great Mississippi, that gues muras the now of our great Mississipp
muring on to the sea. [Applause.]
We are approaching the very a
We are approaching the very acme of our new
prosperity, but we must not ascribe it to our energy prosperity, but we must not ascribe it to our energy
and pluck alone-nor to foreign capital, which has
found employment here-for in ound employment here-for in my humble judg-
ment it is due in a great measure to our
TISE SYstem of a protecive tarife.
The cotton mills in the south gave the first im
all other factories and diversifled pursuits, and ach has prospered under a common shelter of our
protective system. Under its beneflicent effects al of our southern industries have sprung into life, and are to-day indebted to it for that marvelous success subject has not been without serious results, The system of protection is not peculiarly our own; it is is at this hour the fixed law of the principal nations of the earth. We are told that the Phillistinestions pelled the Jews to extinguish the fires of their forges so that they might not become independent. Aristo-
phenes' play of the Archanians places Athens at the phenes' play of the Archanians places Athens at the
apex of her splendor and power when she became apex of her splendor and power when she became
dictator of her own markets and protector of her

Augustus Cæsar restored the protective policy after Rome had languished under the free trade
fallacy; in fact this system prevails in all the Asiatio countries, and in Europe, France, Austria, Northern And while Great Britain Spain, Russia and Italy policy, her colonies repudiate the idea and to-day are happy and
protection.
England's
England's commercial system is maintained by 42,
000,000 of 000,000 of people, while the protective system stands
upon the props of $340,000,000$. And the great civil upon the props of 340,000
wars of the last century
Several years ago the picture of cistress pervadin this land was painful to behold. The contraction of
the currency and the work of monopolies, combined the currency and the work of monopolies, combined with a great public debt and other causes, flled our
highways with starving tramps and brought poverty and distress to every class.
But to-day how different the scene. Look where
you may over this broad southern land, and the eye in value, the arts flourishing, new towns, yea, new cities, springing up as by enchantment, new mine which are conn and navigable streams, the face of the whole counParalyze the
stong arm of protection
believe the south
and I firmly believe the south would at once drift
back to her state of inertness and which she has recently emerged. Open up competi-
tion with the our present labor now so proftably employed wit ${ }_{h}$ not only work incalculable injury and misery, but
you will destroy any party that would attempt

James A. Garfield, when nominating John Sherman, in 1880, said of the Republican party:
ustries ands protecting arm around our great in It is the "arm of protection" thrown around the South that gives it its "new life."

Thomas Hurlburt's flour mill at Waterford, Wis,
was damaged, July 24 , by wind, to the amount of 83,000 .
Eminent lawyers have deelded that the state and not the riparian owner has the title to the water
power at Nigara Falls. We always supposed the
hackmen owned the hackme John Webster, the veteran millwright and mill
builder, of Detroit, Mich., has removed to Nos. 58 and 60 First street, where he has fine salesrooms and
shop. Mr. Webster has been very busy all of the
The failure of the Golden Age Flouring Mills, San Francisco, was announced July 2, with liabilities
stated at $\$ 75,000$. A meeting of the wan called at $\$ 7 \mathrm{zb}, 000$. A meeting of the creditors will be
chen it will be deeided whether or not there shall be an assignment. The mill has been run by a stock company, of which P. A. Campbell is Presi-
dent and George schroeder, Secretary, dent and George sohroeder,
mortgage about one month ago. The other creditors

THE UNITED STATES MILLER

## roller milling in kentucky.

WM. SHAW's NEW Mill AT PARIS, KY. A representative of the Lexington( Ky .) Press was recently detailed to go to Paris, Ky., to take a look through We mam Show, one of the ng mills of Mr. Winam shaw, one of the nost celebrated milers in Kenticky. tis on mills are situated in the suburbs of Paris on never-failing stream of water. The building is six stories high, and is one of the most substantial buildings in the state. Some of the stories are ninetin feet from the floor to the ceiling. The mill and its inside workings can be no more vividly pictured than
graphic words of Mr. Shaw himself:
I come right to the front with one of the best mills in America, and decidedly the best in Kentucky. Now, that may seem a very bold
assertion, and the general public will natuassertion, and the general public will natu-
rally say: "Come, Billy Shaw, we want facts to sustain the assertion." Very well, here they are:
The United States is, beyond question, the leading nation of the world in the manufac ture of milling and agricultural machinery especially so in mill machinery, and Minne apolis, the leading city in the United States for magnificent mills and mill machinery, which the world cannot beat, and the lament ed Gov. Washburn, now deceased, was the grand pioneer in developing and bringing to perfection tnis new process of gradual reduction by roller machinery. Messrs. Odell \& McKean, connected with othereb of machinery of the Stilwell \& Bierce Mfg. Co., of Dayton, O., were, for many years, pioneers with Gov
Washburn in bringing to perfection this Hungarian process of milling, and as theoretic and practical workmen in construction of mills and milling machinery cannot be ex-
celled. As proof, let me refer to the celebrity of the Odell roller machinery, which is gaining world-wide fame.
Only the past winter they shipped to Cork, Ireland, the Odell machinery for a 300 -barrel mill for John Shaw \& Son, and about the 1 st of last February they senta corps of this mill. Whilst I had been millto erect this mill. Whilst years, at my late age of life (three score and ten), I hesitated a long while about making this great change but finally decided I would. However, prior to doing so, I made a trip to Maysville to see
an Odell roller mill just built by Messrs. Roban Odell roller mill found it giving good satisfaction and running well. Then made a trip to Ohio to look at some of the best mills. I
subsequently made another trip to Ohio, acsubsequently made an . Craft of Miamiville, Ohio, and we took in, on our trip, some of the very best mills in the State of Ohio, and got
the views of the best millers and mill owners in the state in regard to the most popular and best roller machinery, and found the Odell
Rolls the most popular, coinciding with our Rolls the most popular, coinciaing
views. While many other makes of rolls are good, very good, yet the Odell rolls possess many advantages that others do not possess.
So after traveling around among the millers and mill owners, I finally decided on the Odel roller system. I entered into a contract with the Stilwell \& Bierce Mfg. Co., for two Victor turbine water wheels of 95 -horse-power, and the Odell roller machinery for a 150 -barrel-per-day mill. Then they furnished me with the following machinery from other parties 26 -reel bolting chests and 10 reer scalpers, from Lima, Ohio; 5 Geo. T. Smith's No. purifiers, from Jackson, Michigan; 1 Becker Brush smutter, from Rock Falls, Ill.; 1 Beardsley scourer, from Milwaukee; 2 dust filectors , Nort, Y. Y.; 1 magnetic separator from New York; 2 Eureka smutters from Silver Creek, N. Y.; 1 centrifugal reel from Dayton. All this machinery is first-class, and cannot be excelled. While there are mills in Minneapolis and elsewhere of far greater capacity, yet there is no description of machinery whatever in Minneapolis mills we have not got in Paris mills. With this advantage in favor of Paris, we cover improvements and patents to date.
Mr. M. A. Craft, the foreman and builder of this new mill, was for many years chief foreman in the erection of mills and other manufactories for I. \& E. Greenwald of Cincinnati. Mr. Craft was foreman in charge of the erection or tis men under my supervision. Mr. Craft and his workmen may well feel Mr. Craft and orkmanship, for it is, without proud of the wanned and best arranged exception, and buiding I ver saw, and I do machinery think $I$ should ters, as 1 ille ben end flouring mills since woolen mills, and saw and ina of machinery of
my 15th year, and the study of various kinds has been the great hobby of my life. This new mill moves off like a thing of life, in most beautiful and clock-like order, and we are manufacturing flour of various
brands that cannot be excelled in quality by brands that cannot be excelled in quality by
complete roller process; no mill-stones; no half-way bungling process like some mills
who ship to Paris and bolster up by balder-
dash advertisements. Again, one very great advantage Paris mills have over any mill in Kentucky: We have a large warehouse contiguous to the mill with a $20-\mathrm{H}$. P. engine operating a large Kirth cockle separator and a large Eureka smutter, capable of cleaning in perfect order 1,500 to 2,000 bushels of wheat per day. It then passes over to the mill and again passes through the before-mentioned machinery and is recleaned.
We are determined to make flour of various brands that cannot possibly be excelled. occasion now to float your money out of Bourbon County for flour. Oh, no! Your money goes glimmering and never returns. Solicit ing a large share of public patronage,

I am very truly yours, as ever,
Paris Mills, May 13, 1884.
From the above extract it will be seen that Mr. Shaw took the greatest pains to investigate the roller mill system, traveling over arge territory and examining the best miln vinced that this was decidedly the best and inced that this was decidedly the best and
most improved system ever invented, and that was likely to be invented for a long time, he decided to have the best mill in the country That he has succeeded no one can deny. Hi mill will be a monument to Mr. Shaw for genmill win be a monument to Mr. Staw for gen-
erations to come. The celebrated mills were built at a cost of from $\$ 30,000$ to $\$ 40,000$, and are complete in every respect. Mr. Shaw has for a half century had the reputation of mak ing the best flour to be had, and with his present improved machinery he will eclipse all former efforts. The Press representative
examined the flour turned out by these great examined the flour turned ont in those and he has no hesitancy in pronounc
mill it the very best he ever saw. Mr. Shaw has
employed a corps of the very best millers the employed a corps of the very best millers the sountry affords, and the public can rest that sured that they turn out the very best flour
that can be made from wheat. Not only can Mr. Shaw turn out better flour than other mills, but he can make cheaper flour tha ther mills. Why? Because he has the ad vantage of both steam and water power. More than half the year he is not at the expense or running an engine, which is, by the way, no
mall expense in a flouring mill. This great eductionse in a llouring fils. to benefit hi ustomers. He has however, one of the finest engines in the world, which he uses when the water runs low. The following are so
the popular brands manufactured here
Pride of Paris; Parisian Fancy; Royal; Plain Family; Fountain. These are the best brands of flour the United States can produce.
These mills ship largely to all the large east ern, western and southern cities, and the flour is daily growing in popularity. This flour has also become exceedingly popular in Lexingin, and the demand is daily increasing. . that is made.
the use of corn as a general article OF FOOD.
A new system of milling, says the Journaz de la Meunerie, is being developed by M. Bez Penot, a practical and scientific miller, for article of food, by extracting from it all ingredients injurious to health.
Corn differs from other cereals chiefly in the large proportion of fatty matter which it contains, as is shown by the following analysis.

Starch and de
Fatty matter
Cellulose.
Water....
Ash...
Corn contains the normal amount of nitrothe exception of rye and rice :

## Rice con Rye Ruckwh



In corn the proportion of glaten is exceedngly small, and this accounts for the facility with which corn starch is made. Starch was first made from corn in the United States, then in Italy, England, and even in France, where it competes, to a large extent, with potato starch.
The absence of gluten in corn flour is the bread. By mixing it with wheat flour, bread of a heavy and compact nature can be made; but the mixture is better suited for pastry and even then is liable to cause a disease which is common among various nations in the South and East, whose almost sole article of food is corn flour. Northern Spain, Piedfont, Sombardy and Southern France are nont, Low with this disease, the nature of which is little known. The symptoms are thiching of the skin and a peculiar change in itching of the skin and a pecular change in
the gastric mucous. The nervous system is the gastric mucous. The nervous system is
attacked, then the brain, followed by delir-
ium and death. The cause of all these roubles is verdigris, which is found in corn in much the same manner as ergot in rye and is more dangerous than the latter, be cause corn, after being attacked by it, doe not alter in shape or weight, so that a separa
tion cannot be made as in rye. But verdigris ion cannot be made as in rye. But verdigris
is especially dangerous, for, after being ground, it infects good flour with which it is brought into contact. In the plant, moldiness first attacks the panicle, then penetrates into
the grains, turning the feculent part into the grain
verdigris.

## the wheat-stran worm.

Isosoma Tritici-Riley.
It is decidedly important to the continued success of winter wheat culture in the southern half of mlinois, that a knowledge of som obscure and rapidy multsplying wheat in-
sects should be widely spread among the people, in order that timely measures of depeople, in order tha
ence may be taken.
Prominent among these little-known ene worm,-an insect which only four years ago was new to scl-
ence, but is now certainly known to infest winter wheat ery generally in Illinois and hroughout the Southern States. It causes a loss less,
indeed, than that due to the Hessian fly, but still sufficient, in many cases, to leave no margin of profit to the producer.
This insect is all the more deThis insect is all the more de-
serving of attention, because serving of attention, because
we find that a simple knowlwe find that a simple knowl
edge of its life history suggests complete and easy measures of protection against its attacks. In a field of wheat badly infested by it, many of the earliest
heads to ripen will be found
 short and imperfectly filled with light wheat or perhaps the plant will be shortened and stunted throughout. The closest external examination will reveal no clue to the cause of the injury; but if the straw be carefully split, a minute, pale yellow, footless grub (a and $b$ ) will be found a few inches above the
root, and wholly within the stem, the cavity of which it has enlarged by eating away the inner surface.
It is about one-fifth of an inch long, and a little flattened from above downwards, and has a distinct head and a pair of brownish
jaws moving laterally. The skin is naked except that each segment bears four short bristles-two ventral and two lateral.
These larve are usually situated so low in the stem that they are left in the stubble when the grain is cut, although a few are
doubtless carried away in the straw. Here they remain until early in the following spring (a few sometimes completing their transformation in winter), when they emerge as minute, shining black insects $(f)$, but a litte more than one-tenth of an inch in length, the great majority of which rudiments of wings (i): in fact, those hitherto bred, not one in twenty has had the power of flight.
By these adult insects, the eggs are, , laid in the spring for the new genera

 $f$, imagoi, $b, h$, , ront and hind wings of exceptional hdividuals; $i$, aborted wing in the nor
relatively enlarged; $j$, pupa, magnifled.]
Remedies.-As the greater part of the larve remain in the stubble, especially if the grain be not cut very close, and as they continue here, in one form or another, at least until midwinter, and usually until the folthat nearly the entire brood may be extermi nated by burning the stubble. In case of a
ight yield, or where the wheat has grown up ield over, but iften be difficult to burn the etructive it will doubtless pay to run structive, it will doubtiess pay to run a
mower over the field, burning the vegetation after it has dried.
The usual absence of wings gives us another esource against its injuries, since a simple otation of crops must almost wholly prevent the adults from laying their eggs in wheat, as they emerge from the stubble in the spring. In adjacent helds, the in wheat and the third in been previously in wheat and the third in clover, as high as ninety-three per cent. of
the stalks were infested in the former, and only about five per cent. in the latter.
Probably the individuals carried away in the straw are killed by threshing; but if not, the simple expedient of burning the remnants of straw-stacks remaining in the spring would complete their destruction. As most. of the
adults are wingless, the spread of the injury from field to field must be slow; and each may therefore protect his own fields without serious danger that his labor may be wasted
through the ignorance or indifference of his neighbors.
S. A. Forbes,

Normal, Ill., June 14, 1884 .

## what the wheat saio.

The editor of The United States Miller has been favored by "Little Pearl," the Miller's Daughter, residing in Michigan, with the following pretty little essay:
"Though we are very small we amount to
quite a good deal in the world. In the Fall quite a good deal in the world. Ine the Fall which the farmer comes and drags and drags till we are far out of sight of human eye, and we just get our little heads above the ground before the snow comes and covers us with a warm blanket to sleep till Spring comes.
But we do not get discouraged, as some people do, but try, try again. We are generally not hindered any more till about July, when the farmer comes with a large machine, called the reaper, and reaps and reaps till we are all cut down and lie very
close to the ground. Then we are tied in bundles, so tightly that we can hardly in bundles, so tightly that we can hardy
breathe, and carried to the barn. When we breathe, and carried to the barn. When we
reach our destination a machine called a thresher is waiting to separate our poor little heads from our bodies. Our heads are then put into bags to be taken to the mill, and our bodies emptied in a pile, which they call When we eater by the will we go into the When we arrive at the mill we go into the elevators and are elevated to the smutters
that separates us from the cockle and dirt. Leaving the smutter we take a loug slide Leaving the smutter we take a long slide
down through the spouts to the stone. Unfeelingly they tear us to pieces. Again we go to the elevators to visit the cooler-for you must know we are quite hot by this time and the miller says we would not bolt till perfectly cool. Then we take a short spout to the bolt which separates us in three parts. Our outer surface, bran, is used mosty for anima food; next, a thin scale underlying the bran,
called middlings, is used also for animal food, but considered much more valuable, and last The noast, the inmer part is called flour Then we all take to our different spouts to be emptied into the farmer's bags, and taken home again. Next, the farmer's wife takes the flour in hand and makes many nice things, the principal one of which is bread-that which is called "the staff of life." So you
can see that, though small, we are of great can see that, though small, we are of great importance. I think that if some people sould take the moral of our story into con always of the most importance, they would be a great deal better off."
"For the present the world is divided into separate nationalities, and that divine com mand still applies: 'He that provideth not for his own household hath denied the faith and is worse than an infidel.' And until that era arrives described by the gentleman from Virginia, patriotism must supply the place of universal brotherhood. For the present Gortschakoff can do more good for the
world by taking care of Russia. The great Bismarck can accomplish more for his era by being as he is a German to the core and promoting the welfare of the German empire. Lac Beaconstield take care of England; let $\Delta$ mericans devote themselves to the welfare of America. When each does his part for his own nation to promote prosperity, justice and peace, all will have done more for the world than if all had attempted to be cosmopolitans
Garfield.

PRIEST-Pat, I understand you are going to be married again.
Discontented Widower-Yis, yer riv'rence.
Priest-But your wife, Pat, has only been dead two weeks.
Discontented Widower-Yis, yer riv'rence; will be?


Detroit, Grand Haven \& Milwaukee railway line.

The Shortest

E + $\qquad$ $\div$ DAYLIGHT EXCURSION: Grand Haven and Return $\$ 1.00$
 dally ,exoent Saturday SLEEPING and PARLOR CARS on throcgh trains.
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of West Water Street.
B. C. MEDDAUGH, T. TANDY, West. Pass. Agt. Gen'l Fr't and Pass. Agt. G. R. NASH, Manager.

DeLOACH WATER WHELLS


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## MITGHINER \& LYNNE.

Old Corn Exchange,
LONDON, ENGLAND.

## HENRY HERZER,



Manufacturer
and
-DRESSER-
MILL PICKS!
no. 456 on the canal. MILWAUKEE, WIS.

I have had twenty-two years experience in the
manufacture and dressing of Mill Picks, and can and do make as fine Mill Picks as can be made by anybody
anywhere. I use only the beat imporied steel for
ty
 out the country, and is pronounced to be first class
by the very best judges. We have hundreds of the most gratifying testimo-
nials from nearly all the states. We solicit your or-
ders and nails from neary alil the states. We solicit your or-
ders and guarantee satisfaction. Address as above. [Please mention this paper when you write.]

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Special excursion rates for parties. Guide Book Special exeursion rates for parties. Guide Book
ontitlea "Forests, Streams rand Lakes of Northern
Wisconsin and Michigan" forwarded to any address on Wisconsin and Michigan" forwarded to any address on
application to the undersigned after March 1st, 1884. H. G. H. REED, H. F. WHITOOMB, Gen'l Sup't. Gen'l Pass. Agent Corner East Water \& Mason Streets. MILW AUKEE. WIS.

## NOTICE TO FLOUR MILL OWNERS

## OWNERS AND PURCHASERS OF PURIFIERS, ATTENTION !

The suits of the Consolidated Middlings Purifier Company, now pending in the $\boldsymbol{U}$. $\boldsymbol{S}$. Supreme and Circuit Courts, have now reached such a stage as leaves no reasonable doubt of their early decision against the manufacturers and users of infringing Purifiers, and for this reason, in justice and fairness to all concerned, the company hereby gives notice that its license covering the use of infringing machines should be secured before the termination of the above mentioned suits, otherwise such Purifiers will be liable to the full amount of damages and cost decreed by the courts.

Following the late dicision of the Canadian Courts, sustaining the Geo. T. Smith Purifier patents, Millers there pleaded ignorance of litigation affecting the title to Purifiers in abatement of the damages assessed against them; but having given this public notice, the company will not consider itself bound to accept such a plea here

Jackson, Mich., July 1st, 1884. CONSOLIDATED MIDDLINGS PURIFIER CO.

## TO OWNERS AND USERS OF PURIFIERS:

Smarting under our success and the fear of danger in the future from us, the Smith Co. have lately published a blustering manifest through all the Milling papers, asking millers to come up and settle, -settle for what? We say to the world at large, don't you do it, wait until they can "deliver the goods"; and remember the fate of the man who once did sell the Lion's skin while the beast lived, was killed in hunting him. The true situation is this: We beat them in the U.S. Court in ' 83 , two eminent judges on the bench. by whom that famous uttertance was made, "Case is as far ahead of Smith as Smith is ahead of Stoll." In that trial we simply defended ourselves, but warned these people (the Smith Co.) that if they did not keep quiet we would attack and overthrow their patents. This we are now doing, and have now reached a stage as leaves no reasonable doubt that it will not be long until there will be no Smith patents to threaten and alarm millers under. We know whereof we speak and so do they. They refer to their Canada suits where the millers were using the Smith brush; the brush is not in contest with us, we don't use a brush; we have something better, and in our fight we have weapons in our hands that the Canada folks know nothing of. Men and brethren, be of good cheer, we are still on deck; you all know very well the blowing qualities of the Smith folks and their agents. We will protect and defend all users of the Case Purifier.

CAEF MFGG. ©O. Columbus, 0.

## BAKERS' "MAKINGS."

How They do it in london
It is a stock argument-or rather a stock assertion-with a certain class of public speakers and newspaper writers that "bread
is cheap." Cheapness, however, is a term is cheap." Cheapness, however, is a term
of comparisom, and although bread is undoubtedly cheaper than it might be, yet it by no means follows that the "staff of life" is as cheap as it ought to be. Any one acquainted with the official statements of both master bakers and journeymen bakers knows very well that means, not the most commendable of the one and the profits of the other, at an enormous loss to the consumer. Reference is not now made to the custom of giving insignificat, though the profits of the maste baker. This illegal-indeed, criminal-practice is regarded by the public at large as a thing of the past, and persons in the control of households as a rule hasten to butter the
bread they buy and do not trouble to weigh it. If, however, the statements published in the official organ of both the masters and the journeymen may be credited, the practice of selling loaves of less weight than is pre pound a loaf, is all but general throughout the metropolis, and there can be no doubt the metroporakings "by this means are a con that the " makings "by this means are a conbakers of London. Short weight, however, is not one of the bakers' "makings," as the term is understood in the trade. "Makings," is a technical term signifying the journeymen's perquisites. These perquisites are of a peculiar character, and forcibly re mind one of the days of Sheffield rattening. There is, for instance, "yeast money." The
yeast-dealer charges the baker more than he yeast-dealer charges the baker more therene
ought to do for his yeast, and the difference ought to do for his yeast, and the difnerence
is afterwards handed over to the journeymen. is afterwards handed over to the joureym a new sort of yeast, or should the yeast-dealer repudiate the custom of the trade, the journeymen take care that the yeast will not work, and the bakings are spoiled. A similar method obtains in regard to millers. Unless the miller pays "sack money" he finds that some of his empty sacks before being returned have been so damaged as to be unfit for use, while others are never returned to him, and he cannot discover what has become of them. The most important of the "makings", however, consists in downright fraud, for which convictions by the magistrate not unfrequently take place. It is a practice on the part of the journeymen who deliver bread at large households to strike a bargain with those who give the orders to deliver a loaf less on each order than is charged for in the bill, the journeyman and the domestic sharing the profit made by the fraudulent transaction. When it is remembered that in many instances the "makings " come to as much as the wages, it will readily be seen that unscrupulous masters will willingly consent to a scheme by which they pay their employes very low wages, leaving the difference to be made up by the ingenuity with which " makings" may be increased at the cost of the customers. The defense to all this is that it is " the generally acknowledged custom of Much,
mers as bread consumers suffer by the methods here indicated, they are still further mulcted by the direct action of the to the number of four thousand, are assoto the number of four thousand, are associated into a society or "ring," that has The branches publish reports of their meetings with a candor that by some persons might be called a pig-headed candor. Thu quite Kent Road branch stated that one of its members (name and address given) "made a complaint about a chandler selling under price," and "it was voted and carried that Mr. F. Korn should go and try to put the matter right." In another district it was de cided "that the price of bread should remain the same." In the Kilburn district, after a complaint "of one shop selling under the district price, steps were ordered to be taken to stop the practice; and then Mr. Quainbush sang an excellent song entitled 'The May Air,'" and other harmony followed. In the Finsbury and Clerkenwell district "the secretary reported the general price in Clerkenwell and St. Luke's $5 \frac{1}{2}$ d, and mentioned that he had received an invitation to attend a meeting of the Eastern and North-Eastern Association at the Horns Tavern, Shoreditch, invited as to the possibility of obtaining an advance to 6d., and making one uniform Brice in all bey branch stated that the society had been "successful in making an improvepromise that 6 d d would be the figure on Mon' day next." These are a few of many instan-
"ring" keep the prices of bread far above what would rule with open competition Pressure is brought to bear upon prosit "under the district price"-whether they be members of the "ring" or not-by means of what are called "missions," that is deputa tions; and it will be readily imagined the persuasion, the cajolery, and the threats tha will be used by the " missionaries." Of th underseller. it is officially said. "he is not a independent existence, but a parasite, livin on your flesh, and feeding on the millers vitals. When the miller ceases to sustain him, he ceases his wretched life, and you are freed from his noxious irritations." The millers are therefore called upon to "Boycott" the underseller. They are told "if one of your customers should determine to be an underseller, and you have a dozen who pay their bills with promptitude and regularity, you ought without a moment's hesitation sacrifice the base for the good and pure. Nothing can justify you in upholding men who have only one object in view-to waste the millers' capital for their own greed at the expense of the whole district should not allow one scabby sheep to contaminate the whole flock." The amount pocketed by the master bakers by the practices here indicated is not considered a portion of bakers' "makings," as the term is regard reprehensible a nature as the "makings " that fall to the lot of the journeymen.
It may be safely asserted that few persons are aware that they are being "done al ound" whenever they buy a loaf of bread and "sack money" and adulteration, there are short weight, false quantities, and prices artificially enhanced nearly 20 per cent. The facts here quoted are all " official," and some of them have come to light in consequence of a squabble between the masters and the journeymen about the "makings."-Pall Mall Gazette, (London).

## INTERESTING TO STEAM USERS

In February last, circulars and letters be gan to be freely circulated by rival engine builders, certifying to the fact-from neces sity-that we took the first premiums for
"the Best Automatic Engine" (which we did at both Louisville and Cincinnati, regardless of class) but that their engines were no entered in the "same class" with us.
One letter began as follows: "The Cum mer Engine Co., of Cleveland, Ohio, are ad vertising all over the country that they re ceived 'the gold medal, highest award, at the Louisville Exposition in compe
While the fact is, we did not advertise the name of any competitor. One of our agents however, did a few times, but without our request or consent. Our advertisements have been very courteous, and bear, we believe, the mark
We enjoyed quietly the notoriety and prom inence so much gratuitous advertising gave us, and our quietness encouraged the issuance of a bolder sheet, headed "Fact versus lourish, aimed to establish the assertion more positively, that we claimed more in our advertisements than we should, and that ertain engines were not entered in the same lass with us We allowed this circular to now as long as any interest sustained it, and without any falsehood.
Below will be found the classifications given the original applications made at Louisville and Cincinnati, as taken from the record books and from the original applications, certified copies of the original applications, certified copies of the original applications,
and will furnish copies to all who may be and will furnish copies to all who may be
interested enough in the matter to ask for them.

Armington \& Sims, Providence, R.
Application for
Department, No
Departmen
Group, No.
Class, No
E. P. Allis \& Co., Milwaukee, Wis., Reynolds


Corlis
Department,
Group, No
Buckeye Engine Co., Salem, $\boldsymbol{O}$
tion for space, No ...............
Application for

Cummer Engine Co., Cleveland, O,

## Application for sp Department, No.

Group, No
Class, No.
The following are condensed copies of orig
inal entries at Cincinnati Exposition, a
taken from the record books.

Atlas Engine Works, Indianapolis, Ind.-Entry 183, Atlas Engine Works, Indianapolis, Ind.-Entry 163,
Class 1, entered for premium one (gold medal and
100) Automatic Cut-off Stationary Steam Engin. \$100) Automatic Cut-off Stationary Steam Engine.
Cummer Engine Co., Cleveland, O.-Entry 174, Class , entered for premium one (gold medal and $\$ 100$ ) Automatic Cut-off Stationary Steam Engine.
Armington \& Sims Engine Co., Providence, R. I.-
Entry zot, Class 1, entered for premium one (goli medal
Engine.
We
We have given above the classifications only, but, as before stated, we are ready to give the exact copies of the original entries $n$ full to all who may care to have them. Please notice that the department numbers $\mathrm{gr}_{\text {oup }}$ numbers, and class numbers are all the same with all the entries.
At Louisville there was no premium offered for a condensing engine, nor was there any competition between any condensing engines. Our opinion is, that the engine which obshould a medal as a condensing engine committee to stay in the class in which it was entered, and receive a second or third premium, or none at all, as the judges might decide.
We believe the way to meet such "bastard" productions as have been circulated with reference to this matter, is by dignified silence ferred to pursue in this case to the end ferred to pursue in this case to the end meet the imputation of falsehood, so boldly made.
Please compare our circular with the other productions issued, but "fathered" by no body, and note carefully, that we
ingly what we say over our name.

Yours truly,
The Cummer Engine Co.,
Cor. Lake and Kirtland Sts., Cleveland, O.

## NONSENSE.

A Detroit dealer in windmills had visitor the other day who looked one of the machines all over with a critical eye and it would last and what it could be expected to do. Seeming satisfied on these points, he
observed: "Well, the price seems to be reasonable enough, and now let's see what it will cost for a steam engine to drive it."
A boiler-making firm used to have in its employ a couple of helpers who were as silly and comical as people ever get to be. One
was a Dutchman and the other a Yankee; and when together they were the source of and when together amount of fun for "the boys." One day the Dutchman was weighing himself, when the Yankee, observing what was
taking place, remarked in evident disgust: "Heh, Dutchy, I can beat that weight standing on one leg." "By tam you can't," re Just as the Yankee was standing on the scale, poised on one leg, and Dutchy was manipulating the weight, one of the firm came around to the scales and took in the
situation. He twisted himself so with situation. He twisted himself so with
laughter that Dutchy and Yankee thought laughter that Dutchy and Yankee thought
he had gone crazy. But they drank their he had gone crazy. But they drank their beer in good faith, both laboring under the weighed more than the whole of "Dutchy." Dean Richmond and his Shingles. T've got a story about Dean Richmond," porter. "It happened up in New York in 56 , I believe. Dean Richmond had an office in Buffalo then. One day, while the old man hand in comparison with which Horace Greeley's writing was like print-a fellow that had a lot of shingles piled up at a station fifty or sixty miles down the Centra
"What d'ye want?"
"Ive
sell."
Well, you go back home and when want 'em I'll send for 'em," and he commenced scribbling again.

About three months afterward the shingle man wanted to go to Albany for something or other, and wrote to Richmond asking for a pass. In a day or two he got a letter about paper and signed 'Dean Richmond.' There wasn't a man in that could make ou any of it except the signature,
shingle speculator supposed it was Dean's shingle speculator supposed making out a pass, so he took the train for Albany, and presented it to the conductor, who glanced at it, said: 'All right,
and handed it back to him. Well, sir, he and handed it back to that piece of paper until one day he landed in Buffalo again Passing Richmond's office, he thought he'd
drop in and thank the old man for his drop in and thank the old man for his
courtesy. He said: 'Mr. Richmond, I am very much obliged to you for that pass.

What pass?" was the gruff response.
Why, the pass you sent me a month or
I didn't send you no pass."
Yes, you did; here it is," said the shingle "an, producing the paper.
"Old Dean took it, studied over it a minute, Richm."
idiot." asked
alive.
got purple in the face, and shouted in a voice trembling with anger: 'Why, you-fool, you, that ain't no pass;' and then, shak-
ing it in his, visitor's face, he pointed at ing it in his, visitor's face, he pointed at it
and added with a yell: That says, 'Why in and added with a yell: That says, Why in Richmond. D'ye understand that, you-

The shingle man beat a hasty retreat. and it took the old man a week to cool down."
OUGHT To be Skinned.-" Is my shaving OUGHT TO BE SKINNED.-" Is my shaving
agreeable to you, sir?" a loquacious barber agreeable to you, sir?" a loquacious barber
asked a customer whom he had been flaying
"My wife would admire it very much," rather indefinitely responded the man under torture.
h," said the barber with great complacency," ladies are often excellent judges of
their husbands being well shaved. And you think mine will suit, sir

No doubt of it in the world. It was only this morning she became angry because told her I could not afford to buy her a spring bonnet, and said I ought to be skinned alive. The barber lost himself in reflection.
An Unsolved Problem.-According to the Chinese, cask-making has been known to dhem for many thousand years. They The did not know how to give the final touch by which the lid is fastened in; the only method that struck them as feasible being to place a
boy inside whilst the cooper tightened the hoops and secured the lid in its position. But how was the boy to be got out? This remained an unsolved problem for three thousand years. Gordon must have heard this legend when in China. He reminds me of the boy. He jumped into the cask, and since then has been shouting through the bunghole that he is going to "do for "all sorts of people, and always abusing those who will eally important question is how he himself eally important question how he himself A Negro was recently seated on a rail fence in Arkansas, intently looking at the ". Wraph wires. A gentleman passing said:

Watching the wires
Yes sah."
Waiting to
Waiting to see a message go by, eh ?"
The Negro smiled and said:
The Negro smiled and said :
"Yes sah."
The gentleman kindly told him that messages were invisible, and explained the work-
ing of the electric current to him at length. Concluding he said

Now you know something about it.
Yes sah."
What do you work at :
"I am a telegraph
Sitting Up And Sitting Down--Inquiring child-"Pa, what is the difference with perfect up and sitting down ? Pa wlain)-"Why, my child, when somebody is
perfect confidence in his ability to exstanding up, and he seats himself, he sits down; and when he doesn't go to bed, and sits down, he sits up." Inquiring child"But pa, if he sits, how can he sit without sitting down; and if he sits down how can he sit up?" Pa (with a dawning doubt of his ability to make it quite clear) "You see my child, if he sits down, why he- I mean if he sits up-go to your ma, and don't ask me questions when I'm busy."-Boston Gic

## zette

What's the matter with the bank?" de manded an excited tourist.

Closed," replied the calm citizen.
What," exclaimed the excited one, "not closed?"

Shut up tighter than wax," asserted the
"Well, that's queer," said the tourist. "No ten steps away from where we now stand a citizen told me she was 'busted wide open, and now you say she is 'shut up tighter than wax.' What liars some men are." And he made an entry in his note book.
Her Favorite Instrument. "Is your wife a musician ?" said
"I am proud to say she
"What is her favorite instrument?"
The organ."

## 1876--NINTH YEAR OF PUBLICATION-1884.

 Tow is the Gime to Subscribe UNITED: STATES $:$ MILLEREvery Mill Owner, Millep, Millwwijght, Mechanic and Engineer
Should be a regular subscriber to this valuable Journal which was established May 1, 1876. It is a complete record of all industrial events of interest to the above named CLASSES OF THE INDUSTRIAL PUBLIC. This Journal is issued
monthly and the subscription price has always been
$\Longrightarrow$ ONE DOLLAR PER YEAR.
Desiring to add a great number of names to our regular subscription list this year, we have made arrangoments with other publishers so that we can, for a short time, afford to offer you the following


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## Proposirion 1.-For One Dollar we will send you postpaid the United States Miller fo one year and one copy of

## Ropp's Calculator,

 the art of computation easy and simple, even for a child It It gives the correct answor to noarly






PROPOSITION II.-For One Dollar we will send, postpaid, the United States Miller for one
Ogilvie's Popular Reading No. 3. This is printed on handsome whits paper from new type, so as to be easily read. It is
neatly bound in hoavy paper covers with beautiful cesign, and printed in handsome colors.
lt contains a handsome frontisiece in 10 colors.
 touching story of a cash, , irl in a New York store.-Little Faith: By Mrs. F. F. W alton, autho Mrs. Caulle's Curtain Lectures: By Douglass Jerrold. Who has not heard of the famous Mrs.
Caudle, and who does not want to read this book ? The Sad Fortunes of Rev. Amos Barton:
 Gems
Christmas.

PROPOSITION III.-For One Dollar we will send you, postpaid, the United States Miller
Pre for one year and a copy of one of the two books described
which you desire, "Empire City," or " 50 Complete Stories."
Cotham Unmasked! Truth Stranger than Fiotion! If You Would Know All गTT ! PTMT TTDTRT PTTV. OH: HAGK AND LOW



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E. HARRISON CAWKER,

Publisher of the "United States Miller," Nos. 116 and 118 Grand Avenue,

MILWAUKEE, WIS.
If you need any Book, Newspaper, or Magazine, write us. We can furnish at publisher's lowest prices. Mechanical Books a Specialty.
N. B.-We shall be pleased to have millers in all sections of the country write us giving items of news, description of néw mills, milling processes, etc.

Mexican Statistics.-The following is from the Two Republics, an Anglo-Mexican paper printed in the City of Mexico: "The following statistics regarding Mexico are approximately correct, and are given in this Mexico is $10,000,000$, and there are 146 cities 372 towns, 466 villages, 5 missions, 5,689 ba ciendas and 14,605 ranches, besides $2,213 \mathrm{col}-$ ciendas and 14,605 ranches, besides 2,213 col-
lections or groups of denominated ' congregalections or groups of denominated ' congrega-
tions,' 'barrios,' 'rancherias,' etc. Value of private real estate: Rural, $\$ 773,000,000$; priprivate real estate: Rural, $\$ 773,000,000$; pri-
vate real estate in cities, $\$ 5,668,036,000$; cattle of all kinds belonging to individuals, $\$ 126$,000,000 ; property belonging to the nation $\$ 40,000,000$; total real estate, not including mines, coast, bays, lakes, rivers, etc., $\$ 3,549,-$
000,000 ; agricultural products, $\$ 177,454,086$; 000,$000 ;$ agricultural products, $\$ 177,451,086$
industrial products $\$ 14,000,000$. industrial products $\$ 14,000,000$.
The French Metre.-The French Metre corresponds in France with our yard. The French people buy and sell cloth, etc., by the metre just as we do by the yard; but the metre is over one-twelfth longer than our 36 -inch yard; it is about 394 inches ( 39 and 368-1000 inches) long. Our yard covers 9 square feet the metre covers very nearly $10 \frac{1}{4}$ square feet, (or 10 and 763-1000 square feet). Our acre contains 43,560 square feet, or 4,840 square yards, or about 4,047 square metres. The French reckon distances not by our mile, but by the kilometre, or 1,000 metres. They say a man or horse traveled so many kilometres. Their kilometre is 3,281 feet, while our mile is 5,280 feet. So the kilometre is about five-eighths of our mile. The French do not have measures corre sponding with our feet and inches. They
divide the metre into 100 parts calling each part a centimetre, which is about two-fifths part a centimetre, which is about two-fifths trifle aser 30 inc metre measure is one ten-millionth of the distance from the Equator to the North Pole distance from the Equatlor the Nort of the dis -that is, one forty-ming measured north and south.

Director-General E. A. Burke, of the New Orleans Exposition, has accepted the following proposals to furnish engines for the World's Exposition:

[^6]Cummer Engine Co
W. A. Harris.
W. A. Harris
W. A. Harris.
E. P. Allis \& Co

Brown Engine Co
Robert Wetherill $\&$ Co
$\underset{\text { Westinghouse Engine Co }}{\text { Armingto }}$
Taylor MIg. Co
Smith, Meyer \& Schuer
Novelty Iron Works...
Buckeye Engine Works
E. M. Ivers \& So
Lane \& Bodley.

Jerome Wheelock
Hooven, Owens \& Rentschler
Total...
Wouldn't Do.-" Yes, I do want a collector," said the millinery man, "but I don't think a lady would suit me."
"Why not?" asked the female applicant "I could not only do your collecting, but also assist in the store, for I am well versed in this business.'
"That may be, but there is another great objection."
"What is it ?"
"Well, I don't think a woman could make a first-class collector."
"Give me your reasons."
"Because," answered the merchant as he grinned a raise-the-plumes-fifty-cents-apiece smile, "because woman's work is never dun, you know."
Tom Ochilitree's Luck.-Tom Ochiltree, the red-headed Texas member who shares the honor of being the biggest liar of the South with Joe Mubhatton, came into the House the other day with all the indications of a bad spree upon his countenance. His associates greeted him and inquired, "What the devil have you been doing, Tom" You look as though you had been out on a lark."
'Tom answered that he had been up all night playing poker
"What luck?"
' Never had such luck in my life-curse it. Why, I lost $\$ 6,000$.
"Six thousand dollars!" echoed his friends in amazement.
"Yes," said Tom, turning to his seat, "and the worst of it is that $\$ 10$ of it was in cash."

SPECIAL BUSINESS NOTICES
ABOUT THE CURTIS' HELFRICH GRAIN CLEANER. The following letter has just been
Office of Chas, A, Pillsbury \& Co June 26.
urtis \& Helfrich, City.
Gentlemen:-" We are using a number $f$ your new Wheat Cleaners, aut ar well satisfied with them. We consider t a superior scouring machine, especially for cleaning and putting in milling condition, smutty wheat which requires ery thorough scouring in order to mill tat all.

Very truly yours
CHAS. A. PILLSBURY.
MILL COGS AND CONVEYOR CLIGHTS. Cogs 10 order on shortest ossible notice. Large stock of conveyor flights on hand.
v. P. BOWSHER.

South Bend, Ind.

## BOLTING CLOTH !

Don't order your Cloth until you have conferred with us; it will pay you oth in point of quality and price. We are prepared with special facilities for bis work. Write us betore you order tbis wor

CASE MANUF'G CO. OFTHEZ AND FACTORY:
Fifth St., North of Waughten,
COLUMBUS, UHIO.

## FOR SALE.

A horizontal boiler and engine in first-class condition. Boiler 15 horse power. Engine 10 horse power. Can be seen running at the GIVERSIDE PRINTING OFFICE, 116 and 118 Grand Avenue, Milwaukee. Also Feed Water Heater and line of Shafting.
EIRGE \& EMITH, PRACTICAL


PLANS, SPECIFICATIONS \& ESTIMATES made for all kinds of
MILLWORK, MACHINERY, ETC. Flour, Sawmill, Tanners' and Browers' Maohinery, and General Mill Furnishers,

Corner of East Water and Knapp Sts.,
MILWAUKEE,
WISCONSIN.
[Please mention this paper when you write to us.]

## 900 EnGIIIES NOW III USE!

Send for Illustrated Circular and Reference List.


# The Westinghouse Madinine CO., 

PITTSBURGH, PA.

甘— SALES ROOMS: $\bar{\square}$

94 Liberty Street, New York.
401 Elm Street, Dallas, Texas.

401 College Street, Charlotte, N. C 53 South Market St., Nashville, Tenn.

## FAIRBANKS, MORSE \& CO., Chicago, Iu.




THE UNITED STATES MILLER．


PITTSBURGH，PA．，

announces that the rapidly increasing demand for

## 

requires that their entire time should be given to the Manufacturing Department of their business． They have arranged with Messrs．Fairbanks，Morse \＆Co．，of Chicago，to conduct the sale of their En－ gines throughout the Western States and the Ter－ ritories．Messrs．

## FAIRBANKS，MORSE \＆CO．

have the most extended facilities for meeting the requirements of the trade，having Branch houses at prominent points，and a large force of experts，com－ petent to thoroughly understand the wants of cus－ tomers，and to furnish them with Engines that will perform the required work in the most satisfactory manner．The Westinghouse Automatic Engine is already a fully demonstrated success，with great eco－ nomical advantages for all purposes，and this arrangement promises to place them still further in advance

## 45 LB8 FLOUR．

雃名
60 LB8．WHEAT．
The Thayer Manufacturing 笺 Mill Furnishing 60 ．
Practical Mill Builders of both Buhrs and Rolls，or both combined．Building new and remodeling
nhr mills with all the latest improvements，includinik Buhr Dressing new process Bolting，together with Buhr mills with all the latest improvements，includinir Buhr Dressing new pres
the latest improvements in wheat cleaning．GUARANTEEING RESULTS．

## —TEAATER＇s

COMMON SENSE THREE REEL BOLT．
Without Conveyors．
Runs with one－hale the power of ordinary Bolts．

THAYER＇S PNEUMATIC MIDDLINGS
PURETEIER



 Thayer Manufacturing \＆Mill furnishing Co．， Westervilie，Franklin（ $\mathbf{o}, \mathbf{0}$ ．


This Wheel is considered one of the most correct that has been devised，gives the highest results，and，with late improvements，is now the best，most practical，and efficient Partial Gate Wheel in existence．

For Economy，Strength，Simplicity，Dura－ bility，and Tightness of Gate，it has no equal．

State your requirements，and send for Catalogue to

## T．C．Alcott \＆Son， <br> MOUNT HOLLY，N．J．

［Please mention this paper when you write to us．］

## WALKER BROS．\＆CO．，

flour and grain
Commission Merchants
TRINITY SQUARE，
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## Nordyke \＆Marmon Co．，INDIANAPOLIS，IND．

builders from the raw material of

Flour Bolts，Scalping Reels，Aspirators，Millstones，Portable Mills，


## All Kinds of Willil Supplies sunied States．

## 500 BARREL MILL IN MISSOURI．

bead what an old miller，who has thirty－four pairs of these rolls in constant use，says：
Messrg．Nordyke \＆Marmon Co．，Impranapolis，Ind．
Gentlemen：－In regard to the workings of our new
Office of Davis \＆FAucett Milling Co．，$\}$ Gentlemen：－II regard to the Workings of our new mill erected by you，will say it is working fully up to and beyond our expeetations．Our
average work is fully 38 per cent．．ver your guarantee．Since starting our mill last July we have had no complaint of our flour from any market

 without shutting steam off the engine，not having a＂choke＂or a belt to come off．The mill is entirely satisfactory to us，and for a fine job of
workmanship，milling skill and perfection of system，we doubt if it is surpassed in the United States to day．It is sertainly a grand monument the ability and skilil of col．C．A．Winn，your Milling Engineer and Designer．You may point to this mili with pride and say to competitors．
＂You may try to equal，but you will never beat it．＂Wishing you the sucess that honorable dealing deserves，Iam，
Yours，etc．，

500 BARREL MILL IN ILLINOIS．
Office of David Suppiger \＆Co．．
HIGHLAND，ILLL，Jan． $10,1884$.
Messrs．Nordike \＆Marmon Co．，IndinNApoLis，Ind．
Gents：－We started up our mill in June last year，and it gives us pleasure to say that your Roller Mills are doing splendid work and give us


125 BARREL MILL IN INDIANA．
 Gentlemen：－The 125 barrel All Roller Mill you built us has been running all summer，and does its work perfectly．Before contra ting with
you for this machinery we vistite many Roller Mills throughout the West and Northwest，built by the different leading Mill－furnishers，and from all we could see，those built by you seemed to be giving the best satisfaction，and this is why we bought our machinery of you，Our mill comes
 have seen；they run cool，and the interior does not sweat，and cause doughing of the flour．Judging from our success，we would recomme
other millers to place their orders with you．
Yours truly，

Motive Power and Entire Equipment of a Modern Mill Furnished under one Contract．

## THE.'.'CASE.'.MACHINES!

Making, as we do, all the Machines that go into

## "GRADUAL REDUCTION MILLING

(Excepting Cleaning Machinery),
They are fitted and adapted to each other throughout, and we are thereby enabled to make the cost extremely moderate.

"BISMARCK"


## FOR SMALL MILLS

 를 $N O$ COMBINATION MILL,8-ROLL, FOUR CORNERED
or any other Short】Cut plan
Can Equal 0ur System.
It is the simplest plan yet in-

"'Little Bismarck'"
 troduced, and we guarantee as good results from small as well as Large Mills. We know just what to do to insure success. We are fully prepared to change Burr or partial Roller Mills to our plan, or to build new mills complete, and if you only want a

## BREAK MACHINE AND SCALPER COMBINED,

## FINISHING ROLLS, PURIFIER, CENTRIFUGAL REEL

 ٪OR A FUIT MIL工, you will find it worth your while to write us before you decide.
## CASE MANUFACTURING CO.,

W. E. CATLIN \& CO., Agts., Chicago, Ills. FOREMAN \& SELLERS, Agts., St. Louis, Mo.




\title{

Stout, Mills \& Temple, The "Salem" Elevator Bueket. <br> DAYTON, <br> OHIO. <br>  <br> American Turbine Water Wheel, ment guality French burr millestones. Sole Agents in Dayton for the sale of du four \& co's celebrated bolting cloths.
 <br> GENERAL MILL FURNINHINGS <br> The American Turbine, as recently improved, is unequalled in the The AMERICAN Turbine, as recently improved, is unequalled in the
power utilized from a given quantity of water, and is decidedly the BEST Part Gate Water Wheel known. It has also been otherwise greatly improved. <br> Large Illustrated Catalogue Sent Free on Application. [Mention this paper when you write to us.] <br> 

बELEVATORS
For $\}$
 mills. $\}_{\text {Send for Catalogue. }}^{\text {conoes, w. } \mathbf{x} \text {. }}$


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VOECHTING, SHAPE \& CO.,
sole bottlers for
CELEBRATED MILWAUKEE LAGER BEER.
MILWAUKEE,
Cor.
WISCONSIN.
bottlers' supplies constantly on hand.
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Lefel Turbine Water Wheel
Made of best material and in best style of workmanship.
Machine Molded Mill Gearing
 Mixers and General Outfit for Fertilizer Works. -Shipping Facilities the Best in all Directions.

POOLE \& HUNT, Baltimore, Md. N. B.-Special attention given to Heavy Gearing for Pulpand Paper Mills. [Mention this paper when you write to us.]


## JaMES LEFFEL'S IMPROVED WATER WHEEL,

Fine New Pamphlet for 1883.
 Wheols, under both the Highowt and Loweat
new Pocket Wheel Book sent free. Address,

JAMTS LTrFFrit \& CO., Springileld, Ohio. and 110 Likerty St., Now Torls City.
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RICHMOND MANUFACTURING CO.
LOCKPORT, N. Y..

Warehouse Receiving Separator, Grain Separator and oat extractor

## WHEAT SCOURERS,

 Wheat Brush Machines, upiigt and horizontal bean dusters, *JENTRIFUGAL FLOUR DRESSING MACHINES.3* Thousands of these Machines arein successful operation,
both in this country and in Europe. Correspondence solicited.
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## Buckwheat Millers

Will Find it to their Decided Advantage to Investigate the Conceded Merits of

## CRANSON'S SILYER CREEK

## RoLLer Buckwheat Shucker

## ITS SUCCESS IS BEYOND QUESTION.

Its Value has been Demonstrated in more than 800 Cases. IT IS זHE ONLY PERFECT BUCKWHEAT SHUCKER IN THE WORLD.

## G.S.CBANSON \& SON, moume Silver Creek, N.Y.

milwaukee \& llorthern Railroad. THE OLD RELIABLE ROUTE.
17 Miles the Shortest Line

## GREEN BAY,

Oconto, Fort Howard Depere, Menasha, Neenah, and Appleton
Marinette, Wis, and Menominee, Mich.
-thenew route to-
wondon, Grand Rapids, and all points in OENTRAL AND NORTHERN WISOONSIN.
The new line to Menominee is now completed, and
opens to the public the shortest and best route to all points on the Michigan Peninsula.
CONNECTIONS.
AT PLYMOUUTH with the Sheboygan and Fond du
Lac Division Chicago \& North-Western R'y for Sheboygan and Fond du Lac.
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points North and West. $\begin{array}{ll} \\ \text { C. F. DUTTON, West. } & \text { F. P. REGAN, } \\ \text { points North and }\end{array}$
"TRIUMPH" CORN SHELLER
CAPACITY
2000 BUSHELS PER
2000 BUSHELS PER D
Shells wet or dry corn.
Shells wet or dry corn.
Cheapest and Best Shellei.
PAIGE MANUF'G CO.,
No. 12 Fourth St., Painesville, o.
Improved + Walsh + Double + Turbine


This wheel has a perfect
fitting ovyinder gatae and
draft tube combined, and
allows no water to escape
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POWER GUARANTEED
equal to any wheel on the
market using equal amount
of water, Address for parof water, Address for par-
tieulars,
B. H. \& J. SAIPPORD,

Phanis fron Worke,

[^7]GANZ \& CO., Budapest, Austria-Hungary.

We are the first introducers of the Chilled Iron Rollers for milling purposes, and hold Letters Patent for
the United states of America. For full particulars [Mention this paper when you write to us.]


8 THEAIMTE EACH WAY DAILY MILWAUKEE, FOND DU LAD, OSHKOSH,
NEENAH and MENASHA. PARTORCARE through from Chicago via Milwaukee without change nrovy do mlegant Aloeperes
 Also a Superb Sleeper from Milwaukee to Neenah
attached to the esme train, leaving Milwaukeeat mid-
night. N. night. N. B.-This sleeeper will be ready for passen-
gers at Reed St. Depot, Milwaukee, aty of olock P. M.

## 2 TPRAITYE EACH WAY DAILY

 MILWAUKEE and EAU CLAIRE. 1 A.shland DAILY TRAIN TOAshland, 工ake pupperior.
NO CHANGE OF CARS
From Milwaukee to Stevens Point,
Chippewa Fulla, Eau Olire or
Ashland, Lalko Superior.
These superior facilities make this the BegT RoUTE
for GRAND EAPPDS, wAUBAV, MERIILL and
points in OENTRAL WISOONSIN. points in Oentral' wisconsin.
F. N. FINNEY,
Gon'I Manager, Milwaukeo. JAS. RARKER,
Gon'| Pass,

# EDW. P. ALLIS \& CO. MILWAUKEE, WISCONSIN. 



## AND SOLE MANUFACTURERS OF

## Gray’s Patent Noiseless



## Corrugated and Smooth Chilled Iron Rolls,

## Wegmann's Patent Porcelain Roller.

We shall be l'leased to hear from Millers contemplating an improvement in their Mills, or Building new ones, and can furnish Estimates and Plans of our system of GRADUAL REDUCTION ROLLER MILLING. We have built and Changed over hundreds of Mills, in all parts of the Country, and using all classes of wheat, BOTH HARD AND SOFT, and can furnish references on application. The Largest and Best Mills of this Country are using our System and Roller Machines. Messrs. C. A. Pillsbury \& Co., of Minneapolis, have over 400 PAIRS OF OUR ROLLS AND HAVE RECENTLY PLACED AN ORDER WITH US FOR ABOUT ONE HUNDRED AND TWENTY MORE. We have had a longer and larger experience in Roller Mill Building than any other manutacturers of this country. There is no EXPERIMENT ABOUT OUR SYSTEM and Rolls, so expensive to millers, and when the mills that we build or change over are ready to start, THAY DO SO AND WITH PERFECT SUCCESS, and there is no further changing, additions, stopping or expense. We manufactured and sold during the year 1881 over TWO THOUSAND FIVE HUNDRED pairs of rolls.

We can send competent men to consult with any millers who contemplate an improvement, and whom they can depend upon as being RELIABLE AND THOROUGHLY COMPETENT to advise them as to the number and kind of machines required, best method of placing them and the change required, if any, in the bolting and purifying system. WE DO NOT URGE A GENERAL CLEANING OUT OF ALL OLD MACHINERY unless we clearly see such would be the ONLY COURSE TO PURSUE to make a SATISFACTORY AND RELIABLE MILL. In nearly all instances we can use all the Old Machinery, leaving it in its original position, or with as slight a change as possible. We aim to make the Improvement so that it will be a Profitable one to the Miller, and at the least expense possible.

Our System is THOROUGH and RELJABLE, and our Roller Machine Perfected by Long Experience, and the Miller takes no chances in using them, as HE DOES with the New Fangled Notions of Drive and Adjustment on many other machines now TRYING TO FOLLOW OUR IMPROVEMENTS and still avoid our Patents, in BOTH of which THEY FAIL. We were the first to advocate the Entire Belt Drive, and were opposed by every other maker, who claimed it was not positive, etc., etc., and now that our Belt Drive is an ACKNOWLEDGED SUCCESS, and will SUPERCEDE EVERY OTHER STYLE, these advocates of Gear Drive have suddenly learned that Belts are the Thing. The same may be said of our Spreading Device, Feed Gates, and Adjustable Swing Boxes. Other Makers are now copying these. ALL these Features, including BELT DRIVE with ADJUSTABLE COUNTERSHAFT and TIGHTENER, the SPREADING DEVICE, FEED GATES, Adjustable Swing Boxes and Leveling Devices, Self-Oiling Boxes, etc., are secured to us by several Strong Patents, and we CAUTION MILLERS in regard to these Infringements of Our Patents and Rights, for we shall look to THEM for Redress. The matter is in the hands of our Attorneys, who will soon take VIGOROUS ACTION against the Makers and USERS OF MACHINES infringing Our Patents.

Several machines are already on the market which Broadly Infringe, and we are informed that other makers are now changing their Old Style Machines, and adopting in a large measure Our Improvements. BEWARE OF THEM.

Send for New Illustrated Catalogue, Giving full Information, to EDWM品 MILWAUKEE, WIS. Branch Office, 318 Pine Street, Benson Block, SAN FRANCISCO, CAL. ส. 'R.

## The Cummer Automatic Engine <br> IS UNEQUALLED IN

Ease of Operation, Effective Duty, Close Regulation,
In Quick Starting up to Speed, Uniformity of Speed and Economy of Fuel.


Southern Exposition at Louisville, Ky., 1883.
The Board of Directors has confirmed the following report of the Jurors on Awards for the Southem Exposition of 1883, and decreed an award therewith as tollows:

FRPORT ON AVVARDS.
PRODECT-Roller Mills (Gilbert de Livingston). EXHIBITOR-STOUT, MILLS and TEMPLE, Dayton, Ohio.

AWARD-A Medal for the BEST ROLLER MILLS.
The Auard as made above is in the hands of the engraver, and will be delivered soon as completed.
Louisville, Nov. 26, 1883.
J. M. WRIGHT

The above is an exact copy of notification of Award sent us. Cuts of Roller Mills referred to


## The Gilbert Combination The challpons!

Acknowledged by ALL USERS and DISINTERESTED JUDGES to be the Best Combination Mill in the World.


## Reduction Rollep Mill.

[^8]
## The Livingston Beted Roller Mill

The strongest, simplest, yet most completely adjusted Four-Roller Mill in the market. It can be used for reducing all kinds of grain.

For descriptive circular and price list, call on or address,

## STOUT, MILLS \& TEMPLE,


chas. bakes, Loczzport, N. Y., Sole Agent for New York, Pennsylvania, Virginia, W. Virginia, Maryland, New Jersey and New England States.

E．harkilsoen Ceivekr．\｛ Vol．17，No． 5.$\}$
MII．WAUKEE，SEPTEMBER， 1884.


## 

## NOYE BOLTING OLOTH DUFOUR

The Noye Cloth is made expressly for our own use by C．Schindler－Escher，Zurich， Switzerland，and is the only cloth in the world which can be recognized by the COLORED
THREADS IN THESELVEDGE，thereby enabling us to guarantee the different qualities，and the purchaser to know what he is getting every time．This exclusive privi－ ome Green Thread

Oue Red Threud Indicates Extra Ouality，
Two Red Threads Indicate Double Extra Quality． All these qualities are made BEFORE the piece is woven and not by mechanical means

Numberless attempts have been made to palm off inferior grades of cloth for Dufour，
but up to the present time all such efforts have signally failed．We have handled this silk since its firsent introduction into this country，andi in purchasing of us millers can
rely upon setting

THE GENUINE DUFOUR．
It is particularly noted for its superior qualities in the way of STRENGTH，ELAS－
TICITY，UNIFORMITY IN MESH，REGULARITV OF THREIDS， TICITY，UNIFORMITY IN MESH，REGULARITY OF THREADS，and
freedom in bolting under all temperatures
MANNER BY PATENTED MACHINERY

THE JOHN T．NOYE MANUFACTURING CO．，BUFFALO，N．Y．，U．S．A．


GRAYS NOISELESS BELT ROLLER MILLS．

## STYエ卫卫 B

FOR SMALL MILLS．
Send for Circulars and Prices

## E．P．ALLIS \＆CO．，

Reliance Works，Milwaukee，Wis．


## ODELL＇S ROLLER MILL SYSTEM．

Is now in successful operation in a large number of mills，both large and small，on hard and soft wheat，and is meeting with Unparalleled Success．All the mills now running
on this system are doing very fine and close work．and we are in receipt of the most flattering letters from millers．References and letters of introduction ODELL＇S ROLLER MILL，

## AN ESTABLISHED SUCCESS

$\rightarrow *$ POINTS OF SUPERIORITY＊＊
possessed by the Odell Roller Mill over all competitors，all of which are broadly covered by
patents，and cannot be used on any other machine． patents，and camot be used on any other machine．
1．It is driven entirely with belts，which are so arranged as to be equivalent to giving each
of the four rolls a separate driving－belt from the power shaft，thus obtaining a positice of the four rolls a separate driving－belt from the power shaft，thus obtaining a positice
differential motion which cannot be had with short belts． 2．It is the only Roller．Mill in market which can instantly be stopped without
throwiug，otf the driving－belt，or that has adequate tightener devices for taking up the
stretch of the driving－belts． stretch of the driving－belts． 3 ．It is the only Roller Mill in which one movement of a hand－lever spreads the
volls apart and shuts off the feed at the same time．The reverse movement of this lever brings the rolls back again exactly into working position and at the same time
turns on the feed．
4．It is the only Roller Mill in which the movable roll－bearings may be adjusted to and
from the stationary roll－bearings without disturbing the tension－spring． 5．Our Corrugation is a decided advance over all others．It produces a more even granu－
lation，more mildtings of uniform shape and size，aud cleans the bran better．
We use none but the Best Ansonia Rolls．
OUR CORKUGATION DIFFERS FROM ALL OTHERS，AND PRODUCES
LESS BREAK FLOUR and MIDDLINGS of BETTER quality．
Mill owners adopting our Roller Mills will have the benefit of Mr．Odell＇s advice，and long experience in arranging mills．Can furnish machines on short Notice．For turther
ation，apply in person or by letter to the sole manufacturers， information，apply in person or by letter to the sole manufacturers，

Stilwell \＆Bierce Manufacturing Co．，

# To Syrtle Disprten Cusestion! 

Owing to the fact that we are the only manufacturers of Roller Mills in this country who are authorized to build and sell machines containing Porcelain Rolls under the Wegmann patents, our business competitors have from motives of policy, been forced to oppose the introduction and use of the justly
 $\longrightarrow$ = MMTエIT®!
of which we are the exclusive licensees and sole manufacturers in America. As many millers have not yet given the Porcelain Rolls a practical trial, but have formed their opinions of their merits wholly from hearsay evidence, we desire to give millers generally an ample opportunity to determine for themselves, from a thorough trial in their own mills, the merits or demerits of Porcelain Rolls, and, therefore, make the following


We will sell any miller who is now grinding purified middlings on millstones, smooth iron rolls or scratched rolls, one of our

## Gray's Noiseless Belfo Drive Porcelain Roller Mills,

of suitable capacity, at our regular prices, and if the result of an impartial and careful trial does not establish the fact that the Porcelain Rolls are superior to either millstones, smooth iron or scratch rolls, for the purpose for which we recommend them, we will replace the Porcelain Rolls with either smooth or scratched iron rolls, allowing the difference in price ; or the entire machine may be returned to us at our expense. Where millers desire, we will send a competent miller to instruct them in the proper handling of the Porcelain Rolls without expense to them. Our offer is made with the purpose of placing it in the power of every miller to satisfy himself that he is using the best machine for flouring purified middlings. Millers desiring to avail themselves of this offer should send sample of stock they wish to reduce, stating capacity required, to

# EDW. P. ALLIS \& CO., <br> Reliance Works, Milwaukee, Wis. 

[^9]

the old grist mill.

The grist mill stands beside the stream, With bending roof and leaning wall,
So old that when the winds are wild So old that when the winds are wild
The miller trembles lest it fall: But moss and ivy, never sere, Bedeck it o'er from year to year
The dam is steep, and welded green;
The gates are raised, the waters pour And tread the old wheel's slippery steps, The lowest rounds for evermore;
Methinks they have a sound Methinks they have a sound of ire;
Because they cannot climb it rom morn' till night, in autumn time, When heavy harvests load the plains, p drive the farmers to the mill, They bring a heap of golden grain, And take it home in meal again.
The mill inside is dim and dark But peeping in the open door,
You see the miller flitting round, And dusty bags upon the floor; And by the shaft and down the spout, And all day long the winnowed chatf, Floats round it on the sultry breez And shineth like a settling swarm Of golden-winged and belted bees;
Or sparks around a blacksmith's door When bellows blow and forges roar 1 love my pleasant, quaint old mill: It 'minds me of my early prime As I am by decay and time; Its wrecks are mossed from year to year, But mine all dark and bare appe
1 stand beside the stream of life; The mighty current sweeps along, Lifting the floodgates of my heart, And turns the magic wheel of song. From out the golden fleld of thought.

## JONATHAN MILLS.

It is always pleasant to know something of the personal history of those men whose names have become prominent in any of the professional, commercial or political. There is, perhaps, no name among inventors of milling machinery better known to-day than tha of the subject of our sketch. His most vio lent critics are compelled to admit that his mechanical ability is of the highest orderthat he is not only able to invent and de sign, but to put in practice that which he has invented or designed. We believe it is generally admitted that Mr. Mills has done more towards producing handsomely designed and well-constructed machinerythorough improvements on all former designs -than any millwright in the world. Since his first invention of his Middlings Mill, which was a model of symmetry and fine workmanship, other manufacturers have taken the been improvements all around, and to-day American milling machinery, without doubt is the best designed of any in the world
Jonathan Mills was born at Bellbrook Green Co., Ohio, in 1835, making him now 49 years of age. His father was a builder of aqueducts and bridges; some of his buid o father's death in 1844, Jonathan went to reside with his grandfather in Green Co, where he whemained until his mother married a farmer He then went to live with his mother and stepfather, and helped to clear up a fine farm in Miami County, Ohio, and at the age of 15 in Miami County, Ohio, and at the age or built for an whe living near by, a large side of the wagon way. This was considered a great mechanical feat for so young a boy to accompiish, as it was built without a single mistake in its fran widge building and ished he went to learn brige buiding and heavy framing, under a celebrated framer by the name of Stratten. While with him he made the heavy walnut four-panel outside doors for a large brick house that his stepfather was building. These doors are perfect to-day, and the best doors of the present day are no improvement in design or workman ship over those he made 34 years ago.

The first flouring mill he had anything to do with, was a short way below Piqua, Ohio on the Miami River, and he helped to make all the wooden gearing - the same kind of oldfashioned, thumb-and-finger gearing that was fashioned, thumb-and-finger gearing that was
used in Oliver Evans' time. After that, he framed a barn near his stepfather's, and then went to Michigan and framed and built a saw mill, and also framed one of the largest barns in the State; it was double-bank barn, into in the State; it was double-bank barn, into
which a loaded four-horse team could be Which a loaded four-horse team could be
driven in at one door on the bank side, and could turn and drive out at the same side through another door. With the large force of mechanics at his service, the above jobs of mechanied only one winter and summer. He went into the woods and hewed out all the timber for both jobs, besides a large amoun of heavy timber for a bridge across the St. Joe River at Niles, Mich. After the above work
was completed, he helped to put in machinery was completed, he helped to put in
in a flour mill near Niles, Mich.
His reputation as a framer began to becom known far and wide, and he was called to go on to the Pittsburgh \& Fort Wayne Railroad then building through Indiana, to take charge of the building of Hailstorm Bridge across Hailstorm Creek, near Plymouth. It was very high trestle bridge, and built on the old
style of heavy trestles. This bridge was 59 style of heavy trestles. This bridge was 59
feet high. From that time until the present feet high. From that time until the present he has been devoting his time to machinery of various kinds, and has built flow mills
saw mills and paper mills. He was at one time in company with the
Des Moines Iron Works and for the short time there did a great deal of mill work, and invent ed and built a brick-machine that would make 60 bricks a minute; sold that out, and went to Michigan to help build a saw mill.
Previous to going to Iowa, he went as fore man of millwright shop-work for Jno. T Noye, of Buffalo. Not liking that kind of help build a large flour mill. His desire to gain as wide a knowledge as possible of all kinds of machinery, made him anxious to change from one section to another. He had cal abilititeputation of having rare mechan P. Allis \& Co., of Milwaukee, Wis., had taken the agency to introduce the Leffel Wheel in Wisconsin and Minnesota, which required a mechanic that was up in all kinds of machiney, and one who could direct and make plans for putting in the Leffel Wheel into all kinds of mills and factories. Mr. Mills was selected as the man to fill the place. He remained in that capacity with Mr. Allis for nearly two years, and, as they were not then reaching out and taking in as wide a range of terriory as he desired, he got uneasy and left Allis co, to take a similar position, which would give him a wider range of territory, with Stout, Mills \& Temple, of Dayton, Ohio. He remained with them about two years, when
the Jas. Leffel Water-wheel Co., of Spring. the Jas. Leffel Water-wheel Co,, of sprem
field, Ohio, induced him to come with them in the same capacity. As he had been placing the Leffel Wheel with E. P. Allis \& Co., his ability was highly appreciated by the Leffel Co., who well knew the kind of metal he was composed of.
After he had been with the Leffel Co., for about six years, E. P. Allis \& Co. became desirous of extending their trade throughout the whole country, in place of the limited territory of a few western States, and again sought Mr. Mills' services. He accepted the position, and at once proceeded to make business lively in that concern. His improvements of patterns and designs of milling-irons in all the shops he has been connected with, were at the time improvements of great benefit to the shops, as well as to the miller, and have been widely copied by other concerns all over been widely
the country.
Since 1877 Mr . Mills has been indefatigable in his efforts to improve the flour-milling interests in this country, and his ability as a fine designer, and his sharp eriticism of poorly means of bringing about better designs and better construction. All of his own inven-

## ions are marvels of m

He is construction. He is entitled to the proud distinction of vented an entirely only inventor who has in or the reduction of wheat
Mr. Mills is now with the
Mr. Mills is now with the Cummer Engine Vorks of Cleveland, O. They are manufacuring and placing on the market some of the Thousands of his friable of his inventions Thousands of his friends will be glad to learn
that he is on the high road to prosperity, such as self-made men deserve.

## free trade and protection.

What is free trade? Commerce unobstructed by tariffs. It is a theory found in actual practice only in Utopia. (Great Britain disseminates it, and glorifies it as a pancea for all ills, and collects one hundred mil hon dollars per annum in taxes on imports. She wanted cheaper wheat, on which to feed er labor at low wages, and so enacted the corn laws. Her silk industry was not quite sfficiently advanced to compete with France and so a protective tariff was retained till 1869. It was even then too early, and the inaustry has languished since. The gold plate industry is still protected, and recently the humble request of British India for its remision was firmly refused, even after requiring the Indian Government to remit its export duty on wheat. That is the sort of free trade that is practiced by Great Britain.
She discards duties on goods that cannot isewhere be made cheaper, and holds on to protection where it is essential to her welng subsidies to ship building, and grantthroughout the world.
What is protection? It is a duty on imports which builds up national industries; ompels the foreigner who shares the profits our markets to bear some part of our burprices of our manufactured goods, and inarm products.
In this country the classes favoring free trade are the importers, the dealers in foreign goods, the British born citizens educated in that theory, and incapable of change of views with change of location and circumstances and men with fixed salaries who want low erence to the general good or their own best erence to the general go
interests in the future.
Those who want protection are the indusrial classes, manufacturers, mechanics miners, and farmers, who constitute more some in these classes, however, short sighted and unintelligent, who have been misled by demagognes and fail to see their interest in protection. To such we recommend a care-
full reading of The Issue. Really merchants and all, indeed, are ulti nately benefited by a policy which benefit the industry of the country
While the policy of protection obtains, in some form, in every civilized country, there are, theoretically, diverse views held by individuals in each nationality. "Free trade is the child of hope and the mother of good will," says George von Bunsen. The protectionist adds: "Her other parent is selfishness, and the eldest of her progeny a thug trained to the strangling of young industries." It is observed that only those industrially advanced nations which fear no competition in prices favor it, while those in which labor is scarce and skill undeveloped oppose and resist it. It is also noticed that nations change their policies as their conditions are materials, whether for manufacture or for food, is more potent than the fear of competition that the bars of the customs are let down; and also, when a great continent, a fertile waste, is suffering for an opportunity to produce all material for manufacture, the bars are somewhat persistently kept up. It is a phase of human nature, very persistently ex hibited, that is seen in all these cases. These
differences of theory and practice will continue, in the future as in the past, enforced by differing circumstances, environing national industries, and dictated by the hard practical sense that recognizes the fact that " circumtances alter cases.

## WHEAT CROP OF 1884

S. W. Tallmadge, of the Milwaukee Chamber of Commerce, presents the following figures as his final estimate of the wheat crop ore are based on ome reports made wimin the past ferr days by the several state agricurtura lepartments and statistical agents of the different states and territories. The report shows the total production of winter wheat
to be $380,000,000$ bushels and the total of so be $380,000,000$ bushels and the total of
spring wheat $150,000,000$ bushels: total of both winter and spring $530,000,000$ bushels. This makes the total yield of the country fully $25,000,000$ bushels more than was ever before produced, $130,000,000$ more than last ear's crop and about $80,000,000$ more than the average crop for the past five years. The departments all agree in reporting the quality superior, and where it has been threshed they say the yield has more than met their calculations. This applies more especially to the spring wheat sections, Iowa, Dakota, Nebraska, Minnesota and Wisconsin. The quality of spring wheat was never better The spring wheat harvest has been late, but the weather has been most favorable and the grain is being cared for in excellent condition.


The First Wheat.-The first wheat raised in the New World was sown by the paniards on the Island of Isabella, in Janyary, 1494, and on March 30 the ears were vest of Me The foundation of the wheathas four grains earefully cultivated in 1530, and preserved by a slave of Cortez. The first rop of Quito was raised by a Franciscan monk in front of the convent. Garcilazo de a Vega aftirms that in Peru, up to 1658, wheaten bread had had not been sold in Cusco.

United States Miller .
 s.inerovino pre in
 MLLWAUKEE, SEPTEMBER, 1884.


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| :--- |

The United States Consuls in various parts of the world who receive this paper, will please
oblige the publishers and manufacturers advertisoblige the publishers and manufacturers advertis-
ingtherein, by placingit in theiroffices, where it can
be seen by those parties seeking such information be seen by those parties seeking such information
as it may contain. We shall be highly gratified to receive communications for publication from
Consuls or Consular Agents everywhere, and we believe that such letters will be read with interest, and will be highly appreciated.
Cawker's American Flour Migl and
Mill Furnishers' Directory for 1884, MilL FURNISHERS DIRECTORY FOR 1884,
published by E. Harrison Cawker, of Milwaukee,
Wis., and sold for ( $\$ 10.00$ ) ten dollars per copy, is
now ready for delivery. It shows the result of an now ready for delivery. It shows the result of an
immense amount of labor, careful inquiry and
studious attention to details. It is without doubt
the most accurate trade directory ever published,
and will be of untold value to those desiring to reach the milling industry of America.
We glean from this neat volume of 200 pages con-
taining no advertisements, that there are in the
United States of America and our neighboring DoUnited States of America and our neighboring D
minion of Canada 25,050 flouring mills, taking them minion of Canada 25,050 flouring mills, taking th
they go great and small. The work indicates in the mills, and the capacity in barrels of flour per day
It further indicates cornmeal. buckwheat, rye-flour and rice mills. It shows that the number of mills in
the various states and territories of the United State the various states and territories of the United States
are as follows: Alabama 153; Arizona 17; Arkansas
343; California 222 ; Colorado $\overline{54}$; Connecticut 288; Da68; Georgia 631; Idaho 21; Illinois 1123 ; Indiana 11899;
Indian Territory 14; Iowa 790; Kansas 489; Kentucky 713; Louisiana 61; Maine 280; Maryland 385;
Massachusetts 340 ; Michigan 846; Minnesota 487
Mississippi 386; Missouri 1025; Montana 21; Nebras Ississippi 386; Missouri 1025; Montana 21; Nebras-
a 250; Nevada 13; New Hampshire 182; New Jersey
. New Mexico 22; New York 1902; North Carolina 848; Ohio 1443; Oregon 145; Pennsylvania 3142; Rhode
Island 51; South Carolina 274; Tennessee 801; TTexas
703; Utah 110; Vermont Island si; South Carolina 274; Tennessee 801; Texas
703; Utah 110; Vermont 247; Virginia 781 ; Washington
Territory 61; West Virginia 447; Wisconsin 777 ; Wyoming 2 .
In the Dominion of Canada we find the record as
follows: British Columbia 17; Manitoba $54 ;$ New Brunswick 198; Nova Scotia 102; Ontario 1160;
Edward's Island 39; Quebee 531. Total 25,050. Taking the work throughout, and it is highly in-
teresting to all concerned in the trade, and we take pleasure in recommending it.

A copy of Ropp's Calculator and the United States Miller wil
address for one year for $\$ 1.00$.

The New American Dictionary and the United States Miller sent pestpaid to
any address in America for $\$ 1.60$.

The Illinois State Fair for 1884 will be held in Chicago, Sept. 8-13. The manufacturer,
artisan, breeder and producer should be fully artisan, breeder and producer should be fully
represented. The premium list is both large and liberal. Full information may be had
by addressing Hon. S. D. Fisher, Springfield, by ad
III.
H. Voss, the well-known Milwaukee bookbinder, has recently improved the appearance it with wire. He has the best machigfe for this purpose in the State. He is an enterprising gentleman, fond of his trade and
believes in having the best machinery at his service.
An old saying is that " if you don't blow
your own horn, nobody else will blow it for your own horn, nobody else will blow it for
you." It appears to us that several of our milling contemporaries have taken the tex mentioned for good law and gospel. Perhaps
it may pay them, but just for a change, in it may pay them, but just for a change, in "Let up a little while.

We have received the 1884 catalogue of
Messrs. A. A. De Loach \& Bro., water-wheel builders and mill furnishers, having their headquarters at Atlanta, Ga. They report a lively trade throughout the Southern States. ing to whom they have sold wheels, mostly during the past year, indicates that their wheel is meeting with great favor.

The business week in Wall street was opened by the suspension of a bank whose
cashier had committed "irregularities" to
the extent of half a million dollars. Th the extent of half a million dollars. The
same issue of the journals which chronicled same issue of the journals which chronicled
the failure of this bank notified the public the failure of this bank notified the public Second National Bank, was negotiating for the purchase of a fine residence in the most
fashionable part of Quebec. These are facts fashionable part of Quebec. These are facts
that should give rise to very serious retlections. When a breaker of trust can secur an asylum from justice across the border of a neighboring state, and can with his illgotten means purchase immunity, ease and,
mayhap, some degree of consideration there mayhap, some degree of consideration there
it is no wonder that the temptation to em bezzlement and breach of trust should num ber so many "victims."-Bradstreet's, Aug. 16 .
"The Great Empire City, or High and Low Life in New York," and the United States to any address on receipt of $\$ 1.00$
The American Exhibition in London, England, of the arts, manufactures, products and resources of the United States will open
on May 1, 1886. More than 500 American manufacturers have already applied for manufacturers have already applied for
space. Forms of application for space may be had on application to General C. B. Nor ton, Secretary, 7, Poultry, London, to the American Legal Counsel of the Amer ican Exhibition (1886), Messrs. Blatchford Seward, Griswold \&
street, New York City.
Jno. P. Brining, Esq., the able represent ative of the Geo. T. Smith Middlings Purifier Co., of Jackson, Mich., has been spending some
days in Milwaukee during the past month days in Milwaukee during the past month.
Mr. Brining is a practical miller of long Mr. Brining is a practical miller of long expurifiers and he is not only able to sell smith often give a hint (if they are willing to learn anything new) that will much improve their
milling. Mr. Brining is heartily welcomed by all Wisconsin and Minnesota millers wh know him. He reports business good.
The British Government has guaranteed upwards of $£ 30,000,000$ for the purpose o new railway in India, ostensibly for the pur pose of making India the granary for Great Britain. This immense outlay will probably stimulate the Indian grain business, but as if it was a great jon this side of the wate primary benefit of English railroad builders As we have stated before, we do not believ it possible under the most favorable circum stances for Indian wheat to compete either
in quality or price with that raised on this continent. Time will tell.

The grain business always seemed to us to be a grumble at one end and a growl at the growling, and anticipating bad luck from the time his cropis sowed until it is sold, and even after that he is generally of the opinion that he did not get enough for his wheat. After the miller gets it and grinds it into flour, he
too grumbles; he thinks he paid too much for his wheat and cannot get enough for his flour although he is probably making a clean profit of from thirty cents to a dollar a barrel. This nuch always the case, but we have heard so millers that we knew were doing reasonably well, that we deem it worth while to call at gentlemen. Don't grumble and growl.

We regret to learn of a very painful acci dent having just happened to Mr. J. M. Case of the Case Manufacturing Co., by which he
loses one if not two fingers of the left hand. it seems The Case Co. has recently been constucting an experimental mill in Columbus with the end in view of developing some new
ideas of Mr. Case's in roller milling. The ideas of Mr. Case's in roller milling. The
mill had just been completed and was just starting up when Mr. C.'s hand was drawn in between two corrugated rolls, which literally
ground one side of his hand into Amputation of the first finger only, at the hand, has so far been deemed necessary, but it is hoped the rest of the hand may be saved. The accident is not only painful and dangerous, but occurred, as accidents always do, at the most unfortunate moment, as Mr. C. was ments himself upon what he earlier experinew departure in roller milling, and which he now must leave to others for the time being.

The British and Irish millers' late annual meeting hos been declared to have been a complete success. A number of long and read and listened to with profound attention and soberly discussed. A cotemporary uggests that a similar series of papers should be prepared by qualified parties to be read at
tional Association to be held in Chicago
December next. We believe it would be well December next. We believe it would be well to try the experiment, although the probabil-
ities are that it would be a failure. Americans are a nervous and practical people and will not, if they can help it, sit down for any length of time to hear a technical paper read when they think that the whole thing will be published in the milling journals, which they can read at home at their leisure. But, by all means, let capable gentlemen prepare their essays on pertinent subjects and if the millers object to hearing them read let them be referred to the printer. This will give harvest and the probable future prices of flour and grain, and for "seeing" the fair city of Chciago. There are many matters of interest to millers which will provoke the deepest at tention and will warrant the largest gathering yet held, but, as we said before, by all
let these technical papers be prepared.

That valuable book "Moore's Universal Assistant and Complete Mechanic" and a
copy of the United States Miller for one copy of the United States Miller for one
year will be sent to any address in America year will be sent to any
for $\$ 2.75$. Order now.

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post-paid to any address in the ost-paid to any address in the United States Calculator in one year and a copy of Ropp's Calculator and the paper for $\$ 1.50$; or a copy of Calculator and the paper for $\$ 1.50$; or a copy of
Ogilvie's Popular Reading No. 3 and the Ogilvie's Popular Reading No. 3 and the
paper one year for $\$ 1.00$; or the books entitled The Great Empire City" or "Fifty Comlete Stories" and the paper for one year for 1.00 ; or the "New American Dictionary" and the paper for one year for $\$ 1.60$; or
" Moore's Universal Assistant and Complete Moore's Universal Assistant and Complete Mechanic" and the paper one year for $\$ 2.75$. Our readers should not fail to take advantage of these offers, which remain open until we mittances must be made by postoffice money order or registered letter. Remittances made otherwise will be at your own risk.

## MILWAUKEE IN HER GLORY.

The Harvest Moon shines forth on our fair Cream City with its accustomed brilliancy
and the city is gayer and its streets crowded and the city is gayer and its streets crowded with thousands more of visitors than ever
before. The hotels are filled to their utmost capacity and the city generally wears a holl day appearance. The museums, in short, all places of amusement are in full blast, and from now to the last o October our citizens and visitors may look for a continuous round of pleasure. The Exposition opens September 13, and that will draw at least a fourth of the people in the tate to our city. Our business men genbe repory trade, especially the retail trade tion of Milwaukee is now not far from 160 000 , and it is increasing very rapidly. All visitors are struck with the remarkable beauty and cleanliness of our city and after leaving, yearn for the time and opportunity of coming here again. The transportation facilities by both rail and water are unsurturers are doing a safe and prosperous business and those intending to go into the man ness and those intending to go into the man-
ufacturing business will do well to visit Milufacturing business will do well to visit Mil locating. Milwaukee is certainly as good a place for manufacturing as can be found and as a place

Respondent at Marysville, Kas says: "Here is located one of the largest and most extensive grist mills in Kansas, known as the Model Roller Mill, built, owned and operated by Capt. Perry Hutchinson. Commencing on a small scale, as all shrewd busithe start should do, he has made it pay from creased to 1,400 bushels per day, or 300 barrels of flour daily. Besides supplying most of the home demand, not only in Kansas, Nebraska, Iowa and other states, a large amount of his manufacture goes direct to Europe. He disposes of all he manufactures and the day I conversed with him he was ten days behind with orders. These mills are running to their fullest capacity with a day and night force, and he has at all times or ders ahead for all he can manufacture. Last
year most of the grain was shipped in; this year most of the grain was shipped in; this
year he expects enough raised in this section year he expects enough raised in this section
for his use. New wheat is arriving, the first batch testing 62 pounds to the bushel. There are better prospects for grain than during the past ten years. It is worth a person's time
to visit the mill of Mr. Hutchinson. This to visit the mill of Mr. Hutchinson. Thi
casionally he gets tired of this, and the people of Marshall County sent him to the state senate, which position he filled to his credit and to the satisfaction of his constituents. But in whatever position he has been called to, he has never forsaken the calling he chose many years ago, that of a miller, and this being his pride, he erected the mill which to-day stands a monument to the vim and enterprise of one of the shrewdest and most a libersl business men in the west. He is farm, official duties and business mill, home, handsome testimonial to Marysville, Marshall County and Kansas.,

A bag of American flour weighing one hundred weight and a quarter, and purchasable at Mark Lane for eight shillings, may wlacent starte English millers out of their complacent agrement with that system of political economy for which the names of Bright and Cobden stand as a sufficient symbol. The first question that rises to the lips is, "Are the American millers doing it at a loss ?" But to this a true answer is exceed-
ingly difficult to obtain. Custom is sought after at no small outlay, and the enterprise of America is quite capable of accepting even serious losses in order to establish a business. It must, however, be added that there is very little reason to suspect any: A merican miller's co-operation in swamping the English market with foreign flour, and if no regular organization can be discerned, then it is rather an extreme notion to suppose that a number of American shippers. and producers go on sending us American flour under cost price. From such facts as these, the one quite certain and necessary conclusion to be drawn is that English mil lers need to avail themselves to the uttermit of all the latest appliances and machinery that science puts in their way, that capital and talent are necessary in modern milling as well as labor and patience and that a man may as soon close his mill and throw the stones into the mill-pond as abstain from mixing with his brotherly millers, and learning from them and the milling press whatever there is new in the milling world.Miller (London.)

The following figures are worth remembering, as they will save a great deal of calculation and give approximately accurate results with a minimum of labor:
A cord of stone, three bushels of lime and a cubic yard of sand will lay one hundred cubic feet of wall.
Five courses of brick will lay one foot in hight on a chimney. Nine bricks in a course will make aflue eight inches wide and twenty inches long; and eight bricks in a course will make a flue eight inches wide and sixteen inches long.
Eight bushels of good lime, sixteen bushels of sand and one bushel of hair will make enough mortar to plaster one hundred square yards.
One-fifth more siding and flooring is needed than the number of square feet of surface to be covered because of the lap in the siding and matching of the floor.
yards of susand laths will cover seventy yards of surface, and eleven pounds of lath One thousand shingle
One thousand shingles laid four inches to the weather will cover one hundred square feet of surface; five pounds of shingle nails
will fasten them on.

## NOW IS THE TIME

Now is the time to invest in tools and machinery," said a prominent manufacturer of tools and machines a short time ago. "We are making to lay up a stock," he said, "and are keeping our men on the prospects of he pronts of contractstalready ma'le," This company could afford to pay hands and store up a stock of finished work, as it had done before; but the manufacturer chose rather to sell at a low price than to pay insurance and the expense of the unavoidable deterioration of finished goods kept in stock. Lower of inished goods kept in stock. Lower
prices and better terms-where terms are offered-can be obtained now than at any time within two or three years. Most men engaged in business requiring manufacturing machinery or machine tools can anticipate heir ordinary needs for a twelvemonth hence, and so can make their preparations or the reflux tide of demand that is as cerain to come as is the spring to succeed to winter. Every period of depression in busiess has been followed by a carresponding prising, and there is no valid reason for believing that this present season of quieude is to sink into one of stagnation. At all events, a business, to live at all, must have the means, and there appear to be good reasons for advising the purchasing or the contracting for of machine tools and manufacturing machinery now, while in those branches of business there is a temporary

## under two flags.

## Jackson, Mich., and Stratford, Ont., Join Hands for a Day's'Frolio

annual Excursion of the Employes of the
Geo. T. Smith Middunge Purifier co.

We give some particulars, gathered from the Jackson Daily Citizen of July 28th, touching this very creditable and pleasant picnic Saturday, July 26, was a memorable day for the
officers and employes of the GEO. T. Smith officers and employes of the Geo. T. Smith
Middlings Purifier Company, the occaMiddlings Purifier Company, the occa-
sion being their second annual excursion to Detroit and St. Clair. The day opened inauspiciously, with a drenching rain, which poured steadily until 6 o'clock, the hour fixed for departure, when the clouds broke away
in the west and the rain ceased for a brief in the west and the rain ceased for a brief
time. In spite of the rain, Mr. Geo. T. Smith was early at the Michigan Central depot, and ordered the train held half an hour, so that none of the party might be left behind.
An immense throng surged about the depot An immense throng surged about the depot
platform with the uneasy motion peculiar to an excursion party awaiting the order to go When the cars backed down to the depot, sixteen first-class coaches in all, they were greeted with cheers, and a grand rush was made for seats, of which there were plenty were all used. A splendid silk banner with the name of the company, and a fine oil painting of the middlings purifier in the center on one side and a centrifugal reel on the other, was dispiayed by the employes, attracting much attention and admiration.
The start from the Michigan Central depot was made at $6: 30$ without incident, all the happy excursionists being comfortably seated aboard and their well-filled baskets stowed safely away. A single powerful engine, No 248 , pulled the long train with a steady rate
of speed. The first stop was made at Ann Arbor at 7:30, in the midst of a driving rain; the second pause was at Ypsilanti, to let the express pass, and it was still raining heavily Only two more stops were made, at Wayne quires, and the long train swept proudly into the Detroit depot at $8: 53$, making the unequalled run from Jackson to Detroit, with four stops, in two hours and twenty-three
minutes. It was still misty, and the few idlers about the depot were amazed to see such a crowd of people and to read the
streamers on the engineannouncing that this streamers on the engine announcing that this
was the George T. Smith Middlings Purifier excursion from Jackson. It was amusing to hear the witty Detroiters offer to surrender
the town, threaten to call out the state troops, the town, threaten to call out the state troops,
and gravely inquire if anyone was left in and gravely inquire if anyone
Jackson to keep the stores open.
The steamer Garland lay at the Michigan
Central wharf, in charge of Captain W. L Central wharf, in charge of Captain W. L
Horn, a river man who knows every buoy bar and light from Detroit to Port Huron.
The transfer from the cars to the steamer
clouds were so dark and the day so disagree
able that some of the party decided to remain in Detroit. The fine band, belonging to the Purifier Company, took their station on the upper deck of the Garland, and while the ex cursionists were getting settled on board, music. They were rewarded with liberal cheers as the boat steamed away at $9: 30$. It was a glorious ride up the Detroit river, across beautiful lake St. Clair, through the "flats," studded with emerald gems of islands, re-
minding one of Venice, with their numerous ornamental summer residences and gaily painted boat houses, and on past Marine City past the Oakwood Mineral Springs hotel innumerable pretty views on either shore until the steamer finally landed its merry cargo at "Shady Side," three miles beyond St. Clair on the Am $2: 45$ P. M. making the run from Detroit in five hours and fifteen minutes. Mr. Smith had sent grounds, bringing cook-stoves, tents, and other camp paraphernalia for rustic enjoyment, which, added to the dancing pavilion, swings, tables, benches, etc., made the cool shady grounds as delightful a pienic spot as one could wish to see. It had rained very little at Shady side, and the grounds were perfectly dry-the sun shone lazily through fleecy clouds, and all agreed in pronouncing it a perfect day. The Jackson party were greeted with loud cheers and national airs
from the Stratford branch of this international excursion, who, accompanied by the St. Mary's (Ontario) band, altogether numbering nearly 500, had arrived about noon on the steamer Mary, from Port Huron. Many of the Stratford party were formerly residents of Jackson, and welcomed their former associates with every demonstration of delight.
Pictures of the crowd at the landing, together with views of the Geo. T. Smith Company's tent and various interesting spots on
the ground were taken by L. F. Wheeler, of

Tecumseh, the artist who accompanied the
Jackson party. The St. Mary's band disJackson party. The St. Mary's band discoursed delightful music at intervals, while
the Jackson people spread the contents their baskets on the green sward and scat their baskets on the green sward and scat-
tered about in groups to enjoy their bountiful picnic dinner. Mr. Smith's tent was converted into a dining room, were the ladie served an elegant repast to the managers of
the company and their invited guests from home and abroad. Wh invited guests from concluded and all parties feeling particularly happy, the Smith band took the stand and showed their Canada friends that they, too had music in their horns.
The large audience was then called to order by W. K. Gibson, Esq., of Jackson, who informed the expectant listeners that they were such good-looking people he would the occasion was one which called for but pression in words of praise and thanks. Said he: "We are gathered here to-day under banks of this strecial relations, upon the of the great northern lakes to the Atlantic ocean. Some of us come from the beautiful peninsula formed by these waters, and others from the province of a queen, who, from he girhood, has worn a secure crown above a in the breast of woman. This gathering has a significance far beyond its mere social aspect. A significance which touches in very marked degree the true relations be tween capital and labor, and indicates one pily adjusted. Here on this spot capital and pily adjusted. Here on this spot capital and
labor have met to shake hands and congratulabor have met to shake hands and congratu-
late each other on the benefits each has been able to bestow. The principle embodied in the Smith Middlings Purifiers. and which the destined to nake entre rovolutions in very manufacture of flour was from the firs very clear and well defined in the mind of
Mr. Smith, but it was necessary that that Mr. Smith, but it was necessary that that
idea should be embodied by intelligent workmen in a machine which should be able not only to work out the results sought, but be as perfect as possible in its operation and
work. The company started idea that success required something mor than the prestige of a fortunate invention and that perfect machines and honest work
were necessary to continued growth an permanent success. The policy wrowth and ated and has been continued ever since, o employing, not merely workmen of skill, but men who were honest, intelligent and sober,
careful of their reputations careful of their reputations as workmen and
citizens. Under such a policy the business citizens. Under such a policy the business of the company has grown, until to-day there is no country where wheat is grown and flour made where the Smith Middlings Purifiers whether into the mills of England and of France, and the other countries of Europe they have challenged the attention and won the praise of the best mechanics for their To this company its and successful working machines, mere operatives, like the factory laborers of the Old World, but men who are reputable as citizens, who bring brain and this company is looked upon as an associate with them in their work, furnishing their capital for its success, proud of the intelligence and skill of its workmen and eve ready to recognize their true place and posi-
tion as men among men pany is concerned capital and labor have united, to solve for themselves the great problem which has so long disturbed the political economists. My friends, let it go out to the world, as it is true in fact, that aim, and that is that the suceess of this company, now and hereafter, shall stand upon pany, now and hereafter, shall stand upon
honest, perfect work, done by intelligent, sober, skillful men. It is in appreciation of such efforts and aims on your part, that the officers of this company have given you this excursion, affording a day of rest and sound njoyment, in which we all can take a part.
Mr. Gibson closed his address, amid great Mr. Gibson closed his address, amid great
applause, by complimentary allusions to the applause, by complimentary allusions to the
audience before him, especially the ladies, audience before him, especially the ladies,
and hinted that something more importan and hinted that something more important was to follow. He declined to occupy further
time, but introduced Col. Roduey time, but introduced Col. Rodney Mason, attorney for the company, of Washington, D. C., who stepped forward, and, in a nea
appropriate speech, presented to George T appropriate speech, presented to George T Smith and George S. Bennett, officers of the
company, the beautiful silk banner company, the beautiful silk banner as testimonial from the employes in the works at Jackson. Col. Mason is a handsome gentle pleasing a white moustache, wstout figure "I am requested," he said, "on the part of my fellow-employes, to present, in their behalf, to the president, directors and stockholders of the George T. Smith Middlings Purifier Company, this elegant banner as a
testimonial of their regard and respect. It is not my purpose regard ating it to mak
any extended speech. Those of you who
know my relations to this company are aware know my relations to this company are aware
that it would take two or three days for that it would take two or three days for me
to tell all that I know in regard to the development and merits of this invention ; but that all belongs to another time and another place. At present it must content me briefly to make this presentation. We represent here to-day two nationalities: some have
their pride in following their meteor flag of old England, others give their allegiance to Withoury banner of the Union of states Without sacrificing our devotion to either we can unite in loyalty to this banner to which we give a common fealty. To you, Mr
Smith, I now transfer this ensign which eel assured you will value for its beauty, it litness and especially because it is a testimonial of the kindly regard entertained for you by all those who are in your employmen and who cordially unite in this presentation." Col. Mason's speech was cheered enthusiastically. When the applause had subsided sufiiciently to render one's voice audible, Mr dibson took the stand and said that Mr. mith was a very modest man while Mr Gibson was not so modest, therefore Mr of the company for the gift of this employ banner. He said: "In behalf of the officers of the George T. Smith Middlings Purifier company, I accept this as a token of your Col. Mason has said, that we come here from under the flags of different nations, but I see upon this banner a painting of one of the products of your mechanical skill and I recognize the great fact that the progress of very nation depends upon honest intelligent labor, and that this is a common ground upon
which we may all stand. This banner will always signify to the officers of the company hat you understand and recognize the true relations of labor and capital as they exist
betwen and them. The exercises closed with music by both bands, and the floor was cleared for dancing,
in which pastime the young people engaged in which pastime the young people engaged
merrily till $60^{\circ}$ 'lock, when they adjourned to merrily till 6 o'clock, when they adjourned to
the deck of the Garland, and continued the amusement all the way to Detroit. It was very nearly 11 oclock when the transfer the depot, where all was in readiness, and the train started at once for home, where it
arrived without incident or accident at $1: 44$ arrived without incident or accident at 1:4
tandard time. Doubtless no one ever beheld a sleepier company of people, one or more
completely tired out, but they reasoned that they "had all day to-morrow to sleep and
rest," so it made no difference. Mr. Smith and the company spared no expense to secure the best car and boats for both the Jackson and the Stratford parties, and the skill with o get up an excursion as well as a purifier In conversation Mr. Smith said he cared nothing about the expense-he did not know what it had cost, but he paid all the bills and hoped the boys had a good time. He said there was nothing that did him more good sted ame the warm good feeling that exthemselves and for the Company.

## ready for any honest work.

worry"-a troubl which makes many people sick, and even
some to die-to be labor done without faith. He means by this, efforts made without confidence in the success aimed at. There is world of truth in the saying, "Courage, always
courage!" A successful man who overheard less sanguine person drawl out "I wish I could," turned upon him suddenly with the words, "Say I will, and you can!", That is experience, and what many a languid individ ual might' prove too, if he would only once wake up. "Our doubts," as the great poet
has it, "are traitors."
The passengers and idlers in a certain street in New York were once upon a time amused by the proceedings of a poor fellow whom the
police did not interrupt, though his movepolice did not interrupt, though his move ments gathered crowds, who stopped to look ng a persiste. They went their way, admir ity. The man had applied at the door of store for assistance. "You are strong and able," was the answer, "why don't you go to

Work! I would gladly, if any one would e me work to do.
Will you do a day's work if I give you a ay's wages?"
Try me," was the answer.
Wenl, take that brick-put it on the curb and carry it to Nassau street. Pick it up again ay it down. Take it up again ark. Ther back. Repeat the walk until the working

## wages?"

If the man who gave this apparently sense-
refuse the arrangement, he was mistaken. The man took him at his word, plodded on
through a long summer day, and received not through a long summer day, and received not
only his money but the applause of the crowd quite as well bestowed as those upon the vic or in any walking match
If he had "worried" over such questions as What is the use?" he could not have done it. His aim was honestly to earn a day's wages sure, a very ambitious purpose, or a very mind. But it and he survived that day and provided for himself food for the next. And it is safe to say that man got around all right in ther employment. He was a philosopher in humble attire, capable of teaching many a means, one great secret of life, with ample one day at a time to live in. and it ise only worth while to shorten the work of that day, while we lengthen the hours in weary specu lations as to the utility of any honest pursuit or in doubts as to results. "Meeting trouble half way" is, in the timid sense, even more foolish than "dropping buckets into empty wells and growing weary drawing nothing and growing weary drawing nothing
The world and its doings are made up of tritles, any way-some sad, some glad, and others foolish. But any honest folly which pays is better than worry, which is usually sated whenthe best come worst is over, with the reflection, "What a

## flour Made of wood.

A correspondent of the Sun, writing from the Catskills, says: "The chief industry up here is producing wood flour, a kind of cousin the Catskills, about nine years ago, and now over twenty mills are in full blast. The pro-tree-poplar is the favorite-is felled and moved and thill. Bark and boughs are reis nothing but a lead-pencil sharpener on large scale, with four or more knife-edges instead of one. On starting the machine the pencil sharpener revolves with great swift ness, and in a few minutes converts the log into a hundred miles of fine clean shavings. These are ground and bolted exactly as in ish-white flour similar in appearance to a very well ground corn-meal. It possesses a slight woody smell, and is almost tasteless. It i put up in large bags, and then is dispatche unmarked, to the buyer

Itried to find out who purchased the arti cle, but with no success. The wood miller was not very communicative. 'It makes,' he
said, 'well, I don't know how much exactly. One log may give five bags and it may giv ten. It sells well-that is, pretty tolerable I reckon I clear about eight or nine dollars a
day out of it-perhaps more. I never tiggered it up. What's it good for?' Good many things. It's used to stiffen paper, but if you put in to much the paper gets brittle. Paper stock is dearer than poplar flour, and that's why the put it in. If you mix the flour with linsee gum and 'biled' oil, you get a kind of oil-cloth. Some folks mix it with meal to give to pigs
and other animals. I guess it's good, but never give it to my hogs, and even those fel lows give it to some other fellow's critters and not their own. Yes, I have heard that some and Indiactors mixed it with meal for army stock in the story because they take much sour meal as cheap as poplar flour. It wouldn' pay to mill pine or cedar or hemlock; they are worth too much as timber. But any wood flour - used that way can be milled into
and when I use poplar almost altogether, but ball, birch, elm or willow.

The farmers dislike the new industry, as it promises to play havoc with the forests which are both an attraction to the boarde ies years ago, used up nearly all the oak and hemlock; the lumbermen have stripped the country practically of pine, cedar and walnut the chair factories are consuming the hickory and maple; and now the wood-llour mill promises to grind up what remaining trees there may be.

THE practice of pouring oil on troubled sea water has led a Scotchman to design a shel which can be fired from a mortar, and which in bursting spreads the oil it carries over the sea. The shellis nitted with two fuses, which are set alight by the explosion in the gun On thin athough the shell is under water the surface, producing smooth water. The device was recently tried with success; the object being to still the sea between two ship in order to let a boat pass from one to
other. The shell fired from the ship carrying it (and every ship might carry a few), burst

THE UNITED STATES MILLER

United States Miller.

## E. HARRISON CAWKER, Editor.

PUBLISHED MONTHLY. Office, No. 124 Grand avenue, Milwaukee.
subscription price-Per Yub To American subscribers, postage prepaid.
To Canadian subscribers, postage prepaja.
Foreign subser
 otherwise agreed upon,
For estimates for advertising, address the UNITED
STATES MILLER. [Entered at the Post Office at Milwaukee, Wis., as
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E. HARRISON CAWKER,
Publisher United States Miller

Subscribed and sworn to before me, this 30th
day of June, 1884 .
B. K. Miller, Jr, Notary Publie,


## See Page 72.

Tue Pennsylvania Millers' Association
will meet in the Assembly Hall, southwest will meet in the Assembly Hall, southwest
corner of Tenth and Chestnut streets, Philadelphia, Pa., October 7, 1884. All millers are invited to be present.
IT is reported that a Mr. Armstrong, of London, Canada, has succeeded in changing
hard fife spring wheat to fine hard winter wheat. The fifth year he reaped 35 bushels, the sixth, 44 bushels and the eighth, 57 bushels to the acre.

A copy of Ropp's Calculator and the
United States Milier will be address for one year for $\$ 1.00$.
The Indiana State Fair will open at Indian apolis, Sept. 29th. It is expected that it wil State. One million dollars worth held in that State. One million dollars worth of machine-
ry , and $\$ 1,500,000$ worth of live stock will be ry, and $\$ 1,500,000$ worth of live stock will be
on exhibition. The railroads will carry pason exhibition. The railroads will carry pas-
sengers to and from Indianapolis at half fare.

The New American Dictionary and the United States Miller sent postpaid to
any address in America for $\$ 1.60$.

The Canadian Pacific Railroad is about to commence the construction of a million-
bushel elevator at Fort William, which point bushel elevator at Fort William, which point
they have chosen for the Lake Superior port hhey have chosen for the Lake Superior port
in lieu of Port Arthur. This point. it is stated at the mouth of the Kaminestequa River, presents a natural excellent harbor, and was the
original selection of the Mackenzie government for the railway terminus.

Milwaukee millers begin to feel as if the milling business will soon improve in condition. Lower prices for wheat are expected
soon and a better foreign demand for flour soon and a better foreign demand for flour.
Freights are low. The output for the past month has ranged from 3,000 to 4,000 barrels per day. Several of the mills are shut down
at present, undergoing improvements and at present, undergoing improvements and
others are running only on half time. The Star mill (Nunnemacher's) will soon start up
again. All things considered the millin again. All things considered, the milling
business in Milwaukee is slow but not bad.

We have received a copy of Sittie's Directory of Brewers and Maltsters in the
United States and Canada published by Eugene A. Sittig of Chicago, Ill., publisher of the German American Miller and the Brewe
and Malster. and Malster. The work has been prepare
with great care perfect directory of brewers and maltsters eve published. The price is $\$ 5$ per copy, which in cludes a copy of the Brewer and Maltster for a
year. Manufacturers desiring to reach this trade should lose no time in securing a copy.

That valuable book "Moore's Universal Assistant and Complete Mechanic" and a
copy of the United States Miller for one copy of the United States Miller for one
year will be sent to any address in America for $\$ 2.75$. Order now.

There will be a very complete exhibition of flour milling machinery at the St. Louis Exposition, which opens Sept. 3. The list
includes the Downton Mfg. Co., Todds \& includes the Downton Mfg. Co., Todds \&
Stanley and W. H. Forman, St. Louis; the Case Mfg. Co., Columbus, O.; Howes \& Ewell and August Heive, Silver Creek, N. Y.;
Richmond Mfg. Co., Lockport, N. Y.; Stilwell \& Bierce Mfg. Co., Dayton, O.; Kirk \& Fender, and Wilford \& Northway, Minneap-
olis; and Edw. P. Allis \& Co., of Milwaukee, who will also furnish one of the large driving engines for the exposition building.
A recent edition of the New Orleans Picayune was printed on paper made of bagasse,
the refuse of sugar cane after the juice the refuse of sugar cane after the juice is in several quarters. The has created a stir Louisiana, who have burned this hitherto worthless stuff to get rid of it, now see a posenthusiasts reckon that it will be nearly profitable as the sugar crop. Southern capital sees a new opening for investment in the the South look forward to emancipation from Northern mills and heavy transportation charges on their purchases. Northern manufacturers, who have long and eagerly been studying how to make paper more cheaply will give this development close attention
and think of several ways in which affect their trade. And finally, consumers o paper generally will be alert to the suggestion here afforded that that article may become cheaper and more abundant.

William Trudgeon, the representative of the Richmond Manufacturing Company, of Lockport, N. Y., meandered into our office one day last month, a ghost of his former self, which head pencil was worn down to a stub ated fingers. He shook us feebly by the hand and sat down languidly. We gazed at him in sprang from our eyes and coursed their way over our storm-beatern and weather-hardened visage.
"O W
"O William, why is this thus?" we asked: He heaved a sigh and faintly answered. so many orders for our machines that my constitution is demoralized, my by-laws suspended, my order book used up, and my lead pencil everlastingly worn out. The house
and faithful servant,' go and take a month's
rest." rest."
Upon hearing this statement of affairs, we
advised him to go to Oconomowoc, and catch advised him to go to Oconomowoc, and catch
fish, drink mineral water and flirt with the girls.
"Are there girls there?" he said, brightening up.
We assured him that there were; and we have now the pleasure of informing his
friends that William is gaining health friends that William is gaining health rap-
idly, and is having a glorious time at Wis consin's favorite summer resort. We advise millers to look out for him when he regains his health and goes on the road again.
The Bankers' Association, to which we referred recently, has met at Saratoga and adjourned. The practical profit to the public at large that can be derived from this meeting, as judged from the press reports, consists central bank in New York to establish a ceipt of country deposits. All other the reproblems, such as the additional security of banks, speculating with the money of other people defaulting officials, etc., etc., in which the public would take a direct interest, were left severely alone, or at least not made public. Perhaps the discussions at the meeting were highly interesting to the bankers, but the eports of their proceedings indicate a vast amount of theorizing from insufficient data and the public is just as ignorant about bank ing. Whethons now as it was before the meet the light of publicity, or whether the members of the Bankers' Association consider it below their dignity to discuss such every-day matters, is a question which we are unable to ecide at present.-Milling World.

The United States Miller for one yea and "Ogilvie's Popular Reading No. 3," wil for $\$ 1.00$.
"Fifty Complete Stories by Famous Au thors," and the United States Miller for
one year will be sent to any address in America, postpaid, for $\$ 1.00$.

## big wheat farms.

It is said that many owners of great wheat farms in the Northwest are forming the opinion that wheat-raising on a gigantic scale is land is cropped to worthlessness and the market heaped up with grain for which there are no buyers. The soil is persistently robbed with untiring industry. Every virtue is drawn from it year after year, and nothing is done to restore it, except to leave on it the ashes of burned straw. This wholesale cropping is not tillage any more than indiscriminate pothunting slaughter is sportsmanship. The land yields but a light harvest even when it is virgin, and it is only rational to conclude that the fate of the worn-out wheat lands of California must be the fate of the prairies of the Northwest, if the monster farm system is persisted in. The fertile regions of the great West are needed for industrious emigrants who want homes, and with close tillage and with the fertilizing matter of their barn-yards will keep up the land instead of wearing it out. These great wheat raisers are said to be Hastings, of Gued men on earth, and W. T. ohng, of Graceville, Minn., a very plainthey man, has been telling them lately that aisim might be doing something better than boors and the wretched ryots of India."

## THE MOCKING BIRD

A Milwaukee theatrical manager was pre sented with a mocking bird a few month em up" in fine style, bought a gilded cage for his bird, hung him up in his office and waited patiently day after day to hear it warble. But the bird would not warble worth a cent, notwithstanding the fact that its owner treated it with the utmost care. An idea one day flashed through his brain and he rushed to inspect his mocking bird dealer in birds ment's hesitation the birking. After a moDonner und Blixen! Dird-fancier exclaimed He was and "Just what I thd dey don't sing at all." "Just what I thought," said Mr. Manager else. Presently to get the joke on somebody in and he sain. "Je of his employes came take ne said. "Jim-I have not got time to valuable, I'll let bird, and although he is week's salary." "Done," said Jim, and he week's salary." "Done," said Jim, and he
bore off the bird triumphantly. This was on Monday morning. On Saturday night, Jim presented himself to the manager, whom he payment for a half-week's salary, "Gred payment for a half-week's salary. "Great you since last Monday morning. Whet seen you been doing all this time ?" "Diggin
worms for that d-n mocking-bird," answered im. The manager weakened and handed ut $\$ 6$ to Jim for his half-week's salary.

## BOLTING CLOTH.

## Few people know to what use bolting-cloth

 can be put, and few know its origin or place times in milling. It was made in the early linen, in Hing history, of wool, cotton an ments in the production of the higher grade of flour, has made it necessary to use silk of the finest quality, in order to make a more even mesh, which is essentially necessary to insure an even running grade or brand of flour, for which any miller may have made a reputation. It sounds somewhat remarkable fully the article in question cannot be successfully manufactured outside of Switzerland, though attempts have been made both in Germany and France. There is only one canton in Switzerland (Appenzell), and in it only four townships, wherein the climate is favorable, and the houses are built for the express purpose of weaving bolting-cloth by hand-looms. These looms are situated in the cellar of the house on account of the temperature or climatic influence, and to produce a continual even running number of meshes one weaver is continually employed upon a certain quality or number of bolting cloth. The numbers run from 0000 to 18, and grit gauzes from 16 to 68 inclusive. Each number if properly made should contain a given and known number of meshes to the square inch, which can be readily counted through a magnifying-glass. Although there are several manufacturers of bolting-cloth located at Zurich and other points in Switzerland, they are compelled to send their silk to the Canton of Appenzell in order to have it woven. Only two leading firms are directly Dufour or near the scene of manufacture of the Canco., in Thal, which is on the edg Lutzenberg, near Thal, in Appenzell proper All numbers of bolting-cloth, from 0000 to 2, are also made in extra and double extr qualities, and although strictly speaking, it would be expected that not only these, but all numbers above 12 should be made in extr and double extra qualities, it has been found practically impossible, as the threads used duce an even square mesh; it in order to proexpedient by some manufactures tound the higher numbers in half gauze only ; that is to say, where two threads build a chain in the lower numbers, an alternate thread is made to answer the purpose in the higher practio this is readily understood by the gractical men in the line. Besides millers the article chemical works are now using the article extensively. Ladies use it to do fancy work and painting on: It is allowedto enter duty free.-Millers Journal.

## MILLING RICE.

Before the war our rice crop came chiefly from the Carolinas. During the past ten years the rice industry has been extended devotisiana, where over 60,000 acres are now conntry has been largely increased crop of the meantime, great improvements have the made in the methods of threshing, and cleaning the grain by the introduction of machinery. When the grain is stacked in the fields to sweat to facilit, it is threshing, after which the rice is special mills for hulling and polishing. There are about a dozen mills of this sort which have been built in New Orleans during the past decade. Each mill employs from twenty to forty hands, and all are busy. The rough rice is received in large bins, from which it where it is winnowed to the upper floor, sticks and rubbish. To remove the beard the rice is passed through a revolving "hoodum," from which it is carried to the "stones," which crack off the hull. Then the dark colored grains are polished for market. The polisher consists of sheepskin, tanned the space between on revolving cylinders, gauge being just sufficient to allow the grains to find their way by allow the rice bottom. The grains are highly polishe the the friction against the skins, whinshed by the bran, and leaves the grain clan ond white. The bran amounts to eigh and for every hundred barrels of elean rice. It sometimes used for the adulteration of It in The waste in the hulling averages about 5 or 6 per cent., but sometimes reaches 20 per facilities and methour local market, with its clearing rice, may be fairly way to become the market in the country.-N. O. Times-

[^10] the name "Psyche" on the stern of a pretty
little yacht.

## THE UNITED STATES MILLER

## Wheat reduction and bolting.

 Bolting flour is a subject that there has been a great deal written upon, and it is a subject that at the present day exercises and worries the minds of millers, great and small, more than any other part of milling.It is universally the case that for a few It is universally the case that for a few weeks after a mill starts up for the first time on gradual reduction, the miller, proprietor, and all hands, are in high hopes and spirits if the mill is but of an average modern arrangement. Their flour is to all appearances better than anybody's. It is giving satisfaction to customers, and their eastern correspondence is flattering, and is calling for all the flour that they can send there. When all of a sudden the proprietor begins to figure up and finds he had about so much wheat when they started, and that he should have had so many barrels of flour. All hands are called on deck, and matters are discussed in a low tone. The final conclusion is arrived at, viz: That there was either a mistake in the amount of wheat they had on hand, or it was not of a quality or grade that would justify them in expecting so much flour. However, the head miller and proprietors have grave doubts in the premises, and set to work to make a dead sure test, when it is found that 10 to 60
pounds more wheat had been used than they had been figuring on to make a barrel of flour. Somebody is to blame. Proprietors are provoked; head miller gets angry, and the second miller very likely feels that if he only had the head miller's place he could
show them a trick, and the sweeper thinkshe could fill the second miller's place. All this time the head miller has been making a general hunt to find out what became of the 10 to
60 pounds of wheat to the barrel. He has 60 pounds of wheat to the barrel. He has goes to the proprietors. When the proprietors ask where it has gone, the answer generally is that "it has gone into the fine finished middlings," "second finished by a good many "second finished ship stuff," and is o order a confronted with the request entrifu centrifugal reel. Every ussengal reel in the market is discussed, prices compared, and the merits and demerits of each is talked over, and one selected, no matter what one, as I cannot see where one has any advantage over any of the thers, as I shall show that they are all wrong in principle, and it has aways been my firm conviction that where a thing is wrong in principle, no amount of mechanical construction and blowing about the great ciple.

one width, and only a certain number of
them to the machine, others will have wider them to the machine, others will have wider
flyer blades, and a less number to the maflyer blades, and a less number to the ma-
chine, some have them with iron blades, and notched out along their outer edges. No two makers can agree on the same number of
flyer blades, and on the distance they shall flyer blades, and on the distance they shall
run from the cloth, some run within an inch, some two inches, some three and three and a half inches
Now they all have open flyers like a fan, and all have to run at a high rate of speed, so that the flyer blades will act as a fan to create a centre vacuum in the flyer cylinder
to prevent the material that is being disinto prevent the material that is being disin-
tegrated and bolted from dropping back through the open flyer blades to the lower part of the reel, thereby overloading that
part of the cloth. Now, it is a plain, positive fact that in running a flyer cylinder with 20 to 40 (more or less) flyer blades at a speed that will make a whole or a partial vacuum, there is at once a war of air, that on the inwhich is endeavoring to rush in to fill the vacuum that the blades in their rotation have produced.
Let anyone draw a 30 or 36 inch circle to represent the bolting cloth (or I should say
disintegrating cloth) then another circle inside, seven inches smaller in diameter than the outer circle: this last circle represents the outside line of travel of the flyer blades, and is three and one-half inches from the
outside circle of the cloth. Now draw a outside circle of the cloth. Now draw a
horizontal line underneath the outer circle horizontal line underneath the outer circle, ing the inner circle at its diameter, and you
will readily see that gravitation and the force of the air from the flyer blades is bound to hold all material in the reel away from the
the solid cylinder is built up with staves, built on to the solid inside heads that are cast zigzag to form 24 shaped troughs in its cir-
cumference. The apex of these troughs come within $\ddagger$ of an inch of the cloth the whole length of the reel. Every other stave is cut out for 6 or 7 inches back from the reel head. also the same at the tail end. The material is fed in at the center of the reel by a welldesigned spout and screw conveyor on the shaft, and is distributed out through the openings in the end of the inside cylinder, which is not solid, as above described, for 6 inches from the head. The material falls through these openings on to the cloth, and rapidly works itself towards the tail of the reel between the solid part of the cylinder and the cloth. The cloth and the solid cylinder all travel together at the same speed, which in no case should exceed 30 revolutions per minute for a 36 -inch reel. When the material reaches the tail end of the reel, it is which back through the slots in the staves hich constantly carry the tailings up, dropshaft, the same as central conveyor on the carries the same as the head conveyor which reel. The reel has two conveyors under it, and steep cant boards leading down to them in effective and ingenious cut-offs, so as to point desired. Should a hole accidentally
por anver to the ather get in the cloth, a cut-off can be pulled and the specky flour sent to the other conveyor without interfering with the good clear allows the miller of it. This arrangement stops the mill or until right along until he the reel and patch the hole in the cloth. There is no speck head or tailings partition about
the reel, but it runs as clear and as free as if were suspended on its journals in mid air. I have invented a perfect etting or preventing specks from either end, which requires no closeitting joint or constant annoyance to the miller, and nothing is in the way to prevent the miller from tak-
ing off or putting on the cloth, which an be done in twenty minutes by a miller used to such work.
There are twelve round Russian ristle brushes, six inches long, carwith tin for each brush. This box and the brushes are suspended right ver the top of the reel, which allows the brushes to rest down on the cloth. Each brush weighs less than one ounce, and is not suspended on weight on the cloth, and is rotated solely by the rotation of the cloth under it; they are the most perfect For wire-covered invented.
For wire-covered reels I use a knowed, six-sided reel is, and we by in flour making as the millstone has been, although I must say it has
held in the samereverence as the old millstone. The rough, heavy, tumbling action of the material being bolted is entirely too harsh and meven. This is shown from the fact that in order to make them do a proper amount of lothed coarser at the head than further along on the reel.
It is almost universally the case, that reels are placed in chests, one above the other, in order, as you all know, to make them convenient to send the cut-offs down to the next reel, clothed with one number, or more, finer cloth. What is this done for? Should not that flour have passed through the first cloth it went into, if it is fine enough to go through The whole secret lies in the fact that it has not come in contact with the cloth on the first reel, the first reel having to be loaded too heavily, even if it is clothed coarser, as there is very little sliding action of material on the cloth. When the material jumps from one section to the other, the light, impalpable four dust kind of floats along, and the rough heavy material strikes the cloth, forcing much rough material through with that portion of fine flour that is forced down on to the loth by the action of the coarse material This continues to go on until a greater portion of the fine impalpable flour dust is bolted out and the material in the reel has become so reduced in volume, that there is not enough ine flour in the reel to protect and hold the coarser granules from driving through.
Then the flour begins to bolt gray an specky, and the miller begins to pull slides with finer cloth. Now the next reel, clothed need any argument: the fine flour that will olt through the lower reel on a finer cloth than it has passed over, should have cotn through the first cloth if the principle bad been so plainly defective. The fact is that not bout pne-twelfth of the cloth on the reel is bout at any one time and that whieh is work is being forced and over worked; and as the material works further along towards the
has been made by Centrifugal Reels. There has been a strong fight made by mill machinthis country to make them take the place the old reels, because they could be built at shops and factories, and, if they could be made to answer the purpose, they would tak very desirable. They have utterly failed to take the place of the old reels, in Europe this country, as general bolters, but are use to quite an extent on tailings and crushed naterial of different degrees of finish, and in for the entire bolting system in the mill. They have been persistently and extensively pushed into the mills of this country to a greater extent than in European countries in this country, which only gees to show how utterly dependent on the mill-machinery inventors of Europe our American inventors are placed as regards improvements in flour naking. They fell on to a principle in boltng, and commenced to apply that principle the shape of the Centrifugal Reel. Finding grater, and finding that a Centrifugal Reel was grapted for that kind of work they was menced using it for that purpose. To-day nine out of every ten of them are used as disintegraters or detachers. How many of the millers would have bought them had they been offered as disintegraters? The fact is they have bought them as bolting machines, and think they are using them for that purpose; but they are using them to do what should be ane on rolls, and handled on a regular we and gentle in action.
There are ten or fifteen centrifugal reel built in this country, and each one claimed to be the best, and each claimed to be better than any European machine. All that the ticular think is necessary to give their par some half dozen minor improve, is to claim peculiar shape or twist or no twist to the flyer blades, or some will have the flyer blades
flyer blades until the material is carried up
high enough to fall back into them. Then the blades strike the heavier coarser, midagainst the cloth, whipping a great portion of the flour right over the blade nearest it. Then it is curved back over the blade, only to be forced out, up, and over the next blade that blade, and that operation is continually carried on, and all the time the fine, light flour dust is doing its very utmost to rush in behind the blades to fill the vacuum created by the blade it passes over. While the coarser particles are being slammed out against the cloth, the greater part of the the cloth and flyer blades, and is only driven out by accident in getting in front of the heavier material. Anybody can readily imagine the action
I will the material.
Tlour Dressercr and my Universal or Genera Four Dresser; and will say right here that I that it is perfectly adapted for bolting any ma terial to be bolted in a mill from cellar to maret; and I propose to build it for scalping the different wheat breaks, for grading and screening wheat, for bolting grading and screening wheat, for bolting the chop from the breaks, and for first grade as well as for rebolting any and all grades of flour. I wil plicity of which makes its description very easy with the aid of the cut which shows it exterior form or shape, which is almost exactly centrifugal reels appearance of many of the Europe. The cut represents my 36 -inch reel Europe. The is 36 inches in diameter and carries two widths of bolting cloth, making f the actual bolting cloth 79 inches in langth the actual bolting cloth 79 inches in length. 36 inches in diameter, five hoops in the length the reel These hoops are suspended on corrugated central drum. The drum has solid eads at each end set back six or more solid from the real head and tail. By examination
of the head end of the cut, it will be seen that
way as the bristle brushes, operated in the same manner. These brushes will keep a scalping reel perfectly clean
all the time. Every miller well understands and can appreciate the great advantage of keeping a scalping reel clean, and not have to be sweeping or hand brushing it several times on each watch. The 36 -inch reel occupies 10 feet in length over all, and 44 and should run 28 reet 10 inches in height,
ations per and we shall put on a 24 -inch pulley, six inches face, unless otherwise ordered.

## The capacity is one of the wonderful fea-

 tures about it; its perfect clearness of bolting cannot be approached, let alone equaled. It will bolt clear from end to end of the reel, and leave the tailings dustless. This is a feature It is believed to have a capacity for handling all the break flour, after it has been scalped through a No. 6 or 8 cloth, of a 600 barrel winer wheat mill, and I am now fixing to give it test in a mill about that capacity. The first ne built has been running constantly day and night for about eight weeks here in the city, in M. C. Dow \& Co's mill, giving perfect satisfaction. It has been tested thoroughly, right where it stands, on several different kinds of material, and not found wanting in any spot or place, quantity or quality.There are three different makes of centrifugal reels in the mill, the best in the market, also a Morse bolt. We have the order about completed for six more reels, built double, wo in a chest, one above the other, to go in the same mill. The top reel of each pair is the break flour. This is the kind of endorsement the break fle
that counts.
This reel will enable millers to do their bolting in much less space, with less power, fewer reels and to obtain more perfect bolting than and to obtain more perfect plished. It does its work by accomsliding action on the cloth. The solid fluted ylinder running so close to the cloth in the same direction with the same speed of the
(Continued on page 73.)

## 1876--NINTH YEAR OF PUBLICATION--1884.

## Tow is the Gime to Subscribe

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## 者

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THE UNITED STATES MILLER.
cloth, enables nearly the whole cloth to be bolting at the whole time, hence the great capacity. There is no pounding, slamming or whipping the flour through the cloth by any forced action. Hence there is perfect bolting accomplished. There is no blowing out of flour when the doors are opened to see the reel in operation. I have personally tested nearly every centrifugal reel in the market, and was so dissatisfied with their operations that I set about to overcome their defects of cylinder reel over two years ago, and made an attempt to build it and put it on the market, but I did not have the means to do so with the many other improvements that I was carrying through t have no word of censure, but Ing through. Thave no word of censure, but the proper backing to place my improvements properly on the market. I now offer the reel propery on in eonstructed on sound principles, knowingitis constructed onses improvement and has ever been made in bolting; and every person who knows me and has seen any maperson who knows me and has seen any magive me credit for most perfect design and mechanical construction, and I can assure you this reel is no exception. It will be an ornament as well as durable and perfect in construction. The prices are reasonable. I have arranged to have them manufactured by the
Cummer Engine Company, Cleveland, Ohio, Cummer Engine Company, Cleveland, Ohio,
who will furnish prices and machines on apwho will furnish prices and machines on ap-
plication. I most respectfully solicit your plication
orders.
In handling this subject, I have done so with plain facts, plainly stated, regardless of whose ox is gored. It is the only way to do the subject justice.
I have all due personal respect for other inventors and manufacturers, but, in my opinion, they are building and offering machines
not correct in principle, and are inducing not correct in principle, and are inducing
millers to believe they are right when they millers to believe they are rig, are wrong. But right or wrong, I expect each will attempt to defend his machine. Their arguments I shall respect if well taken. A courteous criticism of any machine will always command my respect. Any uncourteous or personal criticism, I know, will have no
weight with the sensible and successfu miller. Jonathan Mills.
Cleveland, O.; August 30th, 1884.

## in.a logeing camp.

Bill Nye, who now.lives in Hudson, Wis. visited a logging camp, and w
follows to the Denver Opinion: follows to the Denver Opinion
I put up at Bootjack Camp, on the raging
Willow River, where the gay-plumaged chipWillow River, where the gay-plumaged chipmonk and the spruce gum have their home.
Winter in the pine woods is fraught with
Winter in the pine woods is fraught with fun and frolic. It is more fraught with fatigue than funds, however. This winter a
man in the Michigan and Wisconsin lumber man in the Michigan and Wisconsin lumber camps could arise at 4:30 A. M., eat a patent pailful of dried apples soaked with Young
Hyson and sweetened with Persian glucose, Hyson and sweetened with Persian glucose go out to the timber with a lantern, hew
down the giants of the forest, with snow up down the giants of the forest, with show in
to the pit of his stomach, till the gray owl the gathering gloom whooped and hoote in derision, and all for $\$ 12$ per month and stewed prunes. I did not try to accumulate wealth while I was in camp. I just allowed others to enter into the mad rush and wrench a fortune from the hand of fate while I studied human nature and the cook. I had a good many pleasant days there, too. I read such literary works as I could find around the camp, and smoked the royal Havana
smoking tobacco of the cookie. Those who have not lumbered much do not know much of true joy and sylvan smoking tobacco.
They are not using a very good grade of the weed in the lumber regions this winter.
When I say lumber regions I do not refer entirely to the circumstances of a weak back. Monkey wrench, oil-can and screw-driver ent with this joke; also rules for working it in all kinds of goods.) The tobacco used by the pine choppers of the northern notest the Scandihoovian. I do not why they call it that, unless it is because you why they call it that, unless it is because you
can smoke it in Wisconsin and smell it in can smoke it
When night came we could gather around the blazing fire, and talk over old times and smoke this tobacco. I smoked it until last week; then I bought a new mous, and never solved to lead a diferent ine. I shall never orget the evenings we spent together in that log shack in the heart of the forest. They are engraved on my memory where time's effacing fingers cannot monkey with them. We would most always converse. The crew talked the Norwegian language, and I am asing the English language mostly this winter. So each enjoyed himself in his own quiet way. This seemed to throw the Norwegians a good deal together. It also threw me a good deal together. The Scandinavians soon learn our ways and our language, but prior to that they are quite clannish.
The cook, however, was an Ohio man. He brown flavor that did me much good, so that

Iter had talked with the crew a few hours in English and received their harsh, corduroy eplies in Norske, I gladly fled to the cook shanty. There I could rapidly change to the smoothly flowing sentences peculiar to the Ohio tongue, and while I ate the common twisted doughnut of commerce we would talk on and on of the pleasant days we had spent in our own native land. I talked to him of his old home till the tears would unbidden start; he rolled out the dough with a common Budweiser beer botele and shed the scalding tears into the flour barrel. Tears are always unavailing, but sometimes I think they are more so when they are shed into a barrel of flour. He was an easy weeper. He would shed tears on the slightest provoca tion or anything else. Once I told him some thing so touchful that his eyes were blinded with tears for the nonce. Then I took a pie and stole away so that he could bealone with his sorrow.
He used to grind the coffee at 2 A . m. The coffee mill was nailed up against a partition on the opposite side from my bed. That is one reason I did not stay any longer at the camp. It takes about an hour to grind coffe enough for thirty men, and, as my ear was
generally against the pine boards when the generally against the pine boards when the
cook began, it ruffled my slumbers and made cook began, it ruffl
me a morose man.
we a morose man
We had three men at the camp who snored If they had snored in my own language could have endured it, but it was entirely
unintelligible to me as it was. Still it wasn' unintelligible to me as it was. Sifferent keys
bad, either. They snored on differ bad, either. They snored on different keys
and still there was harmony in it-a kind of chime of imported snore, as it were. I used to lie and listen to it for hours. Then the cook would begin his coffee mill overture and I would arise. When I got home I slept
from Monday morning till Washington's from Monday morning till Was
Birthday, without food or water.

## A WONDERFUL SUBSTANCE.

Among the most interesting developments which have followed in the wake of the diswhich has sprung up in ozokerite, or ozocerite s Webster has it. No fairer substance ever sprung from most unpromising patronage than the snowy pure tasteless, opalescent wax which is evolved from the loud-smelling, wax which is evolved from the loud-smelling pitchy dregs of the petroleum still. The re markable properties of ozokerite have won nigh supreme. This comely impressionable nigh supreme. article, with all smooth, soft beauty, defies agents which can destroy the precious metals and eat up the hardest steel as water dissolves sugar. Sulphuric and other potent no more effect on ozokerite than spring water. It is alike impervious to acid and moisture, Its advent seems to have been a special dispensation in this age of electricity. Every overhead electric light cable, or underground conduit or slender wire, cunningly wrapped with cotton thread; all these owe their fitness for conducting the subtle fluid to the presence of this wax. And in more faminar forms let us outline the utility of this substance. Every gushing school gtrl who sinks her white teeth into this chewing gum chews this paraf ine wax. Every caramel she eats contains this wax, and is wrapped in paper saturated with the same substance. The gloss seen upon hundreds of varieties of confectionery is due to the presence of this ingredient of petroleum, used to give the articles a certain consistency as the laundress uses starch. smelling of tars finds its way to the millionaire's mansion, and honorable servitor. It aids to make possible the electric radiance that floods his room, or, in the form of wax candles sheds a softer luster over the scene. It polishes the floor for the feet of his guests, and it melts in their mouths in the costliest candies. For the insulation of electric wire, paraffine wax has to-day no success
ful rival, and the growth of the demand for this purpose keeps pace with the marvelous growth of the electric lighting sys tem. A single Chicago concern buys paraf fine wax by the car load. Its price is buthal that of beeswax and yet the older wax yield readily to sulphuric or other acid, this being a test for the presence of beeswax in paraffine The demand for paraffine for candies as yet heads the list. Then comes the needs of the paper consumer. In 1877 a single firm in New York handled 14,000 reams of waxed paper Not only for wrapping candy is this paper invaluable, but fine cutlery, hardware, etc. encased in wax paper is safe from the en croachment of rust or dampness. Fish and thus wrapped, and there seems literally no end to the uses found for the paper saturated with this pure, hydro-carbon. In the chem ist's las pure, hydro-carbon. I for articles exposed to all manner of cowerful for articles exposed ans it a copital thin dissolvents; brewers ind it a capital thing for coating the intorior of barres, and th maker of wax forfine, and yet, until Drakedrilled his oil well in 1859, the existence in this
country of this boon to civilization was unsuspected and it lay in the depths of Pennsylvania rocks, where thousands, possibly millions, of years ago it was stored by the hand
of an allwise Creator.-Cotton, Wool and Iron

## NONSENSE.

Not a Kicker.-Merchant Traveler: Ben. Ridgely, a Louisville newspaper man, who for the first twenty years of his life had been accustomed to feeding on champagne and diamond-back terrapin, has for the las
twenty years been having a catch-as-catchtwenty years been having a catch-as-catch-
can wrestling match with the usual boarding house spread, and is still alive, but weak house spread, and is still alive, but weak
One day early in the spring he went to his landlady with a complaint.
"Madam," he said, with a demi-semiquaver in his voice, and a piece of wetness in each a pretty good boarder for the two years I have been with you?"
"Why, Mr. Ridgely of course you have Only yesterday a lady asked me how long
you had been a member of the Young Men's you had been a member of the Young Men's
Christian Association," replied the lady in surprise
"Yes; and when you gave us eggs with feathers on, did I ever kick ?
"Wha-what's that?" stammered the woman thrown off her balance by the sud denness of the blow
"And did I ever insist on your clipping "Sir I don't

And didn't I keep right on, even thoug
u let the butter wear its hair banged, whe u knew I hated bangs?"
Mr. Ridgely, this is going too-"
And did I complain when I found a but n in my pie, because there wasn't a buttonhole in the flap?
Sir, I won't stand this any
And did I report you to the society for the Prevention of Cruelty when I picked that
oor, helpless cockroach out of the biscuit?"
Shut up, you-
Yes; and when I found a minnow in the milk did I ask you whether you milked your ow with a fishing-pole or a seine?
Wha-wha-wha-"
"Don't mention it, madam! When the teak was a little tough, was I one of the boarders who sent a buzz-saw and steamengine up to the house?"

And did I
And did I ever object to paying for furnithat, when I swallowed it, it was so heavy bottom of the chair.out,",

You mean, good-for-nothing
"Don't get excited, madam! Did I ever inDon get exchur bour tea with quire whether you diass or a chain-pump?"

O, you villain, you wretch, you-'
"I hear you, madam; and I want to ask if I er reflected on your molasses-can by asking if you had a patent on that fly-trap?"

I ask, 'madam, did I
"hings."' And I answer ber do any of these no, never.' Therefore I want to know why in thunder-excuse my forcible language please-when they bring me a plate of soup with a dish-rag in it, they don't bring along a pair of scissors to cut the darned thing up,
so a man won't choke on it. That's all, so a ma
madam.'
When the lady was resuscitated Ben wa compelled to go out into the cold, cold world and get another boarding-house. Such is woman's inhumanity to man.
He Couldn't Go to Canada.- "My arrest is a foul outrage," and I shall make the authorities suffer for it.

What in heaven's name were you doing ?
"Absolutely nothing. I was engaged in down and captured me,"
"Hm; yes. What do you raise on your farm?"
"Notes."-Rochester Post-Express.
An Extravagant Habit.-He came in oking very tired.
"You look worn out, John," his wife said
"Have you had a hard day at the office
"Not particularly so," he replied. "I'm
little (hic) tired. I walked up to-night in stead of taking a car.
"You ought not to walk such a long dis tance after your day's work," she said, "and
besides," she added, as a pungent odor of besides," she added, as a pungent odor of several beers filled the room, "we are very
poor just now and you cannot afford to walk." poor just now and

- New York Sun.
The Dude.-Jennie-Oh, he was such unny looking fellow,
Mary-He had such tight clothes on. Alice-His legs were so thin. Carrie-And his feet were so large. Dick-How did he get his trowsers on them Jennie-I don't know unless-Dick-Maybe he pulled them head.-New York Graphic.
Mr. Granger Objected.-"I came up
who had engaged board at a Vermont mountain farm house.
"Well, by gosh, you won't get him!"remarked the son of the family, sotto voce, as
he picked up the milk pail and went out to milk.-New York Star.
A Transformation Scene.-"Ma," said the small boy as they were taking the train out of town a few days ago, "you'll see somethin' funny when we get back." "What will it be ?" inquired his mother. "Why, all the buildings will be a different color." "Nonsense child; what gave you that idea?", "Well, pa told Mr. Smith last night that when you and me went away he was goin' to paint the town red," and then he wondered why bis buy candy.-Boston Post.

A Humiliating Mistake.-"What shall do with that "" thundered a tall delegate to a Chicago barkeeper as he shoved his glass cross the bar.

Why, you ordered whisky, didn't you?" tammered the barkeeper in affright
'I ordered whisky, sah, but not that glass. I guess you don't know me. I'm from Kaintucky, sah, and my name is Henry Wat-" I beg your pardon, sir, exclaimed the barkeeper, as he hastily set up a demijohn and a quart goblet on the bar.-Philadelphia
Beauty and the Buttons.-The girl with soft gray eyes and rippling brown hair, who walked all over your poor, fluttering heart at the charity ball, has just finished a crazy quilt containing 1,064 pieces of neckties and hat linings, put together with 21,390 stitches. And her poor old father fastens on his suspenders with a long nail, a piece of twine, a sharp stick, and one regu-
larly ordained button.-Burlington Hawkeye.
'SAY, boss, what is de meanin' of bein' a Mormon?" inquired a lazy-looking coon of an intelligent State Department clerk, as the couple met a few days ago

Mormon? Why, a Mormon is a resident of Utah and averages from two to eighteen wives.

Well, boss, what fo' you white folks got so down on de Mormons and want to make em close dar business ?
"Because it is highly immoral, this thing "I dunno nothines.
'I dunno nothin' bout plurality, but I jess whish I could be a Mormon right here i Washington. I'se only got one wife, and she makes my libbin' for me a taking in washing -and, Goddlemity, ef I could be allowed by de law to have twenty I needn't do nothin
but drink gin and ride in the street-cars all but drink gin and ride in
the rest ov my born days."

Aт a Tennessee banquet the other night an old man who had been invited and who knew nothing of wine sat drinking champagne Looking up, with an expression of disgust he said

## Here, nigger, I don't want no more of this

 stuff.'"Whut's the matter with it, boss? somethin" hat'll jolt me like I was hit with a maul. "Waal, boss," turning and grinning at his companions, "you stick ter hit an' hit 'll stick


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HENRY HERZER，


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## MILWAUKEE，WIS． <br> NOTICE TO FLOUR MILL OWNERS

## owners and purciassre of pugitirrs．attention：

The suits of the Consolidated Middlings Purifier Company，now pending in the $\boldsymbol{U}$ ．$S$ ． Supreme and Circuit Courts，have now reached such a stage as leaves no reasonable doubt of their early decision against the manufacturers and users of infringing Purifiers，and for this reason，in justice and fairness to all concerned，the company hereby gives notice that its license covering the use of infringing machines should be secured before the termination of the above mentioned suits，otherwise such Purifiers will be liable to the full amount of damages and cost decreed by the courts．

Following the late dicision of the Canadian Courts，sustaining the Geo．T．Smith Puri－ fier patents，Millers there pleaded ignorance of litigation affecting the title to Purifiers in abatement of the damages assessed against them；but having given this public notice，the company will not consider itself bound to accept such a plea here
Jackson，Mich．，July 1st，1884．CONSOLIDATED MIDDLINGS PURIFIER CO．


Cockle Separator Manufacturing Company
MエエオームUエモణモ，ШエS．


GENERAL MILL FURNISHERS
Kurth＇s Improved Patent COCKLE SEPARATOR， Built also in combination wihh Bloastions＇t Wheat Separators． Large Capacity combined with Good Quality
of Work．
Bouratiofo
Patast GRAIN CLEANERS，




GRNUUNE DUTFOUR and AICHOR BRAND BoITIIGG clopHs


## THE UNITED STATES MILLER

| HON TO WOO THE MAIDENS. |
| :---: |
| If you would woo an Indian maid, |
| Lay sentiment aside; |
| And wear a suit of a single belt, |
| Adorned with a 'possum hide. |
| -Churubuseo People. |
| If you would wos a Yankee mald, |
| Just take her to the fair, |
| And treat her to ice cream and eake, |
| And give her taffy there. |
| -Gorham Mountaineer |
| If you would woo a York State maid |
| And have her come half way, |
| Give her the pants and all the cash, |
| And let her have her say. |
| -Waterlon Observe |
| If you would woo a Texas lass, |
| Always be prepared to run; |
| For should you chance that maid to sass, |
| She'll fall back on pa's shotgun. |
| -Galveston Newx. |
| If to a Cincinnati maid |
| You'd make your suit more dear, |
| Just take her to a hill-top house |
| And there set up the beer. |
| -Cin. Price Curren |

And if a Hoosier girl you'd take
The way is worse, we fear,
You'll put up taffy, we feam a
Cash, pants and lager beer.

cake

I'll yust dell you vat you do,
Fill her up mit beer und kro United States Miller.
directions for preparing and putting in wHEELS.
If rock foundation, blast it out the depth of standing tail water, and six inches wider than the outside of penstock, and from two feet above where the wheel sits, to five or six feet oundation wall end of penstock; then lay bottom frame of penstock will be four inches above the surface of tail-water at low-water mark. If ground bottom, dig it out as above directed, except in depth, which should be one foot greater; put down mud-sills and plank them over, and lay foundation walls or set posts on it as above directed.
Frame a good substantial penstock leaving square opening in the bottom frame one inch pieces in the corners of square opening, to make it eight square; plank the bottom with three-inch stuff, and sides with two-inch Make a round hole in the eight-square, one eighth to one-fourth inch larger than the diameter of cylinder on wheel case. When the heel is down in the penstock, turn it round place desired and cut gains in the edge of round hole for the bridge-tree, Care should always be taken when idjusting wheels and machinery to prevent any extra friction and the shafts, etc., and particularly so with small he shats, ethey and pat a very high speed Very wheels, as they them hem being not in line, and, ocing the stuf-fing-box and other boxes too tight, will cause whe-fourth to to be lost.
The forebay should be large enough to keep the water in the penstock at its full height, and prevent agitation of the water entering. A good rack should be put in the rorebay to prevent trash from getting into the wheel.
As the eccentric wheel can only turn onehalf around, there should be on the upper end of extended eccentric wheel shaft a pair of either spur or bevel gears, 5 or 6 to one, so that the hand-wheel will make $2 \frac{1}{2}$ or 3 turns Book

## industries of the united states

Prof. J. K. Dodge, statistician of the agricultural department, has just issued a small United stas which presents some of the nited states which presers some of the triking results of his investigations of stasistics of the manufacturing and agricultural production of the country for twenty years. Within that period, owing to labor saving its production, with a smaller proportion of arm labor, and now threatens a glut in farm products unless this proportion shall be farther reduced. The question of an outlet o foreign markets is discussed, and facts are shown that the supplies of food products merely pays for the imported food and beverages and that the trade cannot be extended without a ruinous reduction in prices. The distribution of labor in occupations in this and other countries is shown, with reference to comparative thrift and progress. It is found invariably that the quality of distribution of industries retards development and that exclusively agricultural nations are always poor. The phenomenal progress of the orm, statistics showing that half the culivated area of the United States lies in onefourth of its territory, producing more than three-fourths of some of the principal crops. The fact is shown that the Ohio valley is the
most fully occupied body of land, Ohio hav Ing 94 per illians her surface in farms Indiar 8 , Ilinois 8 , Kentacky 84 and $n$ other state as much. It is shown that already three-tenths of the manufactures of the United States are produced within the "Central West" in less than three-tenths of
the area of the country, within half a centhe area of the country
tury from its settlement.

The forty-sixth edition of "The Mechanic's and Engineer's Pocket Book" by Chas. H Haswell, has just been issued by Messrs Harper \& Brothers of New York Jity. It
has been completely revised and a large amount of new matter has been added "Haswell" is so well known to mechanics and engineers generally that it does not nee extended comment at our hands. It is sufficient to say that it is standard and accepte authority on all mechanical and engineering subjects. All interested in the trade should provide themselves with a copy at once.

## A DOG's BENEVOLENCE.

John Brooks, watchman at the lower mill in Rochdale, has an intelligent Scotch ter rier named Dick, that stays nightly with him and accompanies him on his "rounds, in a hound owned by a neighbor. Monday morning Mis. Brooks gave Dick a beef bone with perhaps a lialf-pound of slightly tainted meat attached to it. After smelling it and in his mouth, and ran with it to the garden which is close by the house; there he left the bone and ran off toward the residence of the owner of the hound, and soon returned, the hound following. Dick led the way to the garden, and, showing his friend the sweet morsel, doubtless said in language dogs alone
understand: "There is your breakfast, help yourself." And he did help himself, for he is one of the lean and hungry sort, nor did h leave the spot until he had fairly polished
the bone, Dick meanwhile sitting quietly by the bone, Dick meanwhile sitting quietly by
looking on, apparently very well pleased to seoking on, apparently very well pleased friend so heartily enjoy his breakfast. - Boston Herald.

FOR SALE $\underset{\substack{\text { Sower } \\ \text { polendia } \\ \text { Fiour } \\ \text { Wate }}}{\text { Wate }}$
 dress, Lock Box 17, Troy, Ohio.

## NEWS

## Wickliffe, $K$

## F. L. Turner, of hominy or starch mil

ne City Mills Company, of Knoxville, Tenn., in flour mill.
Alexander Mason, St. Louis, Mo., intends to put u
$\$ 30,000$ flour mill at Dallas, Tex
The mills at Darlington, Man
up and are running at full blast. completely remodeled with Mills are about to be chinery
Burned, Aug. 31, Wood's roller mills, at Eufalo
Ala. The loss is estimated at from $* 50,000$ to $\$ 60,000$ Incendiarism is supposed to be the cause.
Jonathan Bartley, the well-known millwright, of German Valley, Pa., is remodeling the mill of Messrs,
Stephens $\&$ Co., Bartley Station, N. J., and putting in aling o: th, celebrated Allis rolls.
to encourage citizens to erect elevators and make that city a great grain center. We admire its zea innipeggers
August 16, the mills and elevator at Anoka, Minn.
wned by W. D. Washburn \& Co fire, also the mill owned by Messrs. Weisel Bros. The foss to milling and other property was very large. The White Star Mills at Cincinnati, o., owned by
the estate of the late H. D. Huntingdon, will be sold at auction by the administrator
has been appraised at $\$ 77,000$.
The extensive flouring mill and wheat elevator situated at Waterloo, Monroe county, Ill., owned by
Kepler Bros., of St. Louis, burned Aug, 31, togethe with 30,000 to 40,000 bushels of wheat and 600 barrels of flour. The loss is about $\$ 200,000$; insured for $\$ 100$, 000, largely in Eastern and foreign offices.
Cummer engines have just been started in the
following places: Amoskeag Cotton Mills, Man following places: Amoskeag Cotton Mills, Man-
chester, N. H.; sawmill of A. L. Johnson \& Co., Muncie, Ind.; Linseed oil mills of I. P. Evans \& Co.
Indianapolis, Ind., and in the flouring mills of C. B. $\&$ D. H. Cowan, Canal Winchester, 0 .
Mr. Simon Gebhart, of Dayton, Ohio, one of the largest millers in Ohio, has just ordered two pairs of 9x24 Bismarek rolis of The Case Mfg. Co., of Cotim
bus, Ohio. Mr. Gebhart has about all the different makes of rolls made in his mill, and when he came to his order.
At the forthooming exposition at Louisville, Ky roller mills, purifiers, centrifugals, etc., in various sizes, from the factory of The Case Manufacturing C., of Columbus, Ohio. The display will be in charge of N. T, Pyne, the well-known mill builder and fur
nisher, of Louisville, who is the agent and repres nisher, of Loulsville, who is the agent an
ative of The Case Co. for the Southwest.
The Case Manufacturing Co., Columbus, Ohio, re
port their foreign trade rapidly on the increase
port their foreign trade rapidly on the increase,
They have recently received orders from Europe for

93 sets of rolls, besides a number of purifiers. On
the 11th inst., they received orders for four complete all roller mills, being 52 sots of rolls, 10 puriffers and centrifugals. This is good enough for one day.
the following day they received an order fro urope for 45 sets of rolls. Keep up the motion !
The 250 horse-power Cummer engine just started
in the Amoskeag Cotton Mills, Manchester, N. H., in the Amoskeag Cotton Mills, Manchester, N. H.,
has attracted the admiration of all in that vicinity, nd is looked upon with a great deal of pride by the The Cummer Oo. have made the following shipments: a 52 horse-power engine with complete outfit to the power to Louis Mitches, Wausau, Wis. a 130 horse.
power to C. B. \& D. H. Cowan, Canal Winchester, O.; Dietry \& Son, Moorheadville. Pa., power engine to I. P. Evans \& Co., Indianapolis, Ind-
The Cummer Engine Co., have just started one of their ice and refrigerating machines in the plant of the Rob't Portner Brewing Co., Alexandria, Va
and another in the brewery of Albert Zeigele \& C $C$ Buffalo, N. Y.; This is the second Ballentine ice and efrigerating machine furnished the Zeigele Co., and
the makers consider it a strong endorsement of their
nachine. The Cummer Co. have just completed the machine. The Cummer Co. have just completed the
erection of two of their refrigerating machines in the plant of the Co-operative Brewing Co., Buffalo,
N. Y., and expect to ship another ice machine and . Y., and expect to ship another ice machine ang
very flattering outlook for their busines, they are running to their full capacity on ordered
The Cummer Engine Co. have sent a 130 horse-
power engine to the Louisville exposition to drive several of the electric light dynamos on exhibition Tey will also furnish one of their Ballantine ice and
refrigerating machine, and a 130 horse-power engine or the St. Louis exposition. The engine will drive machine will be used to keep a comfortable tempe
are in the music hall, and for refrigerating an The foll articles that may be on exhibition.
ith the Cummer Co.: One large refrigerating ma-
chine with purifler for the Crescent Brewing
Co., of Aurora, Ill., to displace a machine of an Co., of Aurora, Ill., to displace a machine of an-
ther make; three refrigerating machines with Sons, Newark, N. J.; a 170 horse powery of Hensine with Mountain Mills, Ala., and two engines, one 250 horse power and the other 105 horse-power, for the Brooks
\& Ross Lumber Co., Schofleld, Wis.; The following
are among the recent shipments of this Co.: A 55 are among the recent shipments of this Co.: A mis Wayne Jenney Electric Light Co., for their new plant for the flour mills of A. Dietty \&\& Son, Moorheadville, nore good sized engines and another refrigerating machine in the early part of next week, and report
orders coming in freely. E. Corbet, Sandusky, Ohio, has taken the contract
of W. H. Tenny, Georgetown, D. C., for a complete gradual reduction mill. The machinery will be fur-
nished by the Case Manufacturing Co., Columbus, Ohio. Ten pairs of "Case" rolls, in connection with
their purifiers, centrifugals, scalpers, ete., will be used. Mr. Corbet will plan and superintend the
and will, no doubt, give Mr. Tenny a good mill. The Case Manufacturing Co., Columbus, Ohio, will
have a full line of their machines, including the
"Be Bismarck" four roll mill, with patent automatic
eed, the "Case" double, and single puriflers, the "ed, the "Case" double and single puriflers, the first break machine and the "Case" three roll first Louis Exposition, in charge of W. H. Freeman, of St. Louis, Mo. They will have a fine display of splendid
constructed machinery, and millers visiting the exconstructed machinery, and millers visiting the ex-
position will do well to give them their intelligent
Messrs. Edw. P. Allis \& Co., of the Reliance Works, Milwaukee, Wis., have received the following orders for their celebrated Gray's noiseless belt roller mills
during the past month from the trade: Through Messrs. Wolf \& Hamaker, of Allentown, Pa.: Three double machines for W. Hummel, Seigfried's Bridge,
Pa.; five complete double machines for J. B. Hurst \& ines for plete double machines for Messss. Fritch Bros.,Norrishey are building at Betchelsville, Pa.; five complete ouble machines for Adam Stout, Shoomakersville
a.; a No. 2 four break reduction machine and tw ouble roller mills for Richard Stephens \& Co., Bartyill Works, Pa. Thichmond, Ind.: The Richmond City
Four double complete achines for W. Ralston, New Carisle, Ohio; five
complete double machines for Messrs. Hamilton omplete double machines for Messrs. Hamilon
Bros. \& Co., East Liberty, Ohio; from the Great plete double machines. Through Messrs. Willford it Northway, Minneapolis: Four complete double ma-
hines for Messrs. Sorlien Bros., G ranite Falls, Minn ne double machine for M. Gregson, Ramsey Station,
Minn From Messrs. Haggerty, Hunter \& Co., Peoria, III: Five double machines, all complete. From I double machines. From Messrs. Richards \& Butler rom mill owners-Chas. F. Nieson, Sedalia, Mo hree complete double machines; Dewey \& Stewar
Owosso, Mich.: Five complete double machines Owosso, Mich.: Five complete double machines:
Messrs. Jones \& Stacy, Algona, Iowa: A No. 2 four reak reduction ma ouble machine; Messrs. J. Major \& Sons, Sarnia, oller mill, together with the necessary special ma hinery and iron work to fit them up in good shape Cedar Grove, Wis.: One double and one single machine, all complete; J. T. Elder, Mason City, Iowa:
A No. 2, four break reduction machine and two double roller mills, and all necessary machinery to
At his mill up in good shape; Messrs. J. C. Grinter \& Co., Perryville, Kas.: A No. 2, four break reduction pecial machinery and iron work necessary for complete roller mill; R. Whitelaw, Woodstoek, Ont.:
Three double roller mills; The O. A. Gambrill
MP'g. Co., Baltimore, Md.: Two pairs Allis' rolls; Mrg. Co., Baitimore, Md.: Two pairs Allis' rolls,
orth \& Hainke, Erfurt, Wis, : One complete double
oller mill; Williams Bros., Kent, Ohio: Two com
of Atchison, Kans., after a thorough investigation Messrs. Allis \& Co. for the complete outfit for their mill, which is to be rebuilt on the roller system. The order embraces twenty two pair of the celebrated
Allis rolls, in Gray's noiseless belt Alis rons, in Gray's noiseless belt frames. The mil
will have a capacity of 250 to 300 bbls., when com pleted; R. Stelling, Port Washington, Wis.: A double
porcelain roller mill: W. Rhodes, Fertill, porcelain roller mill: W. Rhodes, Fertill, Iowa: Three
complete double roller mills; P. Berger, Fairview,
III. Wis.: A complete line of Gray's noiseless belt roller
wills, mills, and other special machinery, to remodel his mill to the complete roller system; Higginsville Mill-
ing Co., Higginsville, Mo.; A double roller mill; Bush \& Southwell, willson, N. Y.: Three complete
double machines; Cleveland Milling Co. Cleveland The Dresden Miluble machines, all complete double machines; Jno. Ream, Hagerstown, Md, One double machine; Louis Munch, Chrystal Lake, Ill.:
Four double machines, all complete; Jewell Milling Co.,
plete; Williams \& Co., Libertyville, Mo.: One double machine; The Hudnuts. Terre Haute, Ind.: One Eight pairs Allis rolls, in Gray's noiseless belt frames,
ron work, belting, etc., for complete roller mill: Sinker, Davis \& Co., Indianapolis, Ind.: One double double machines, all complete; Siddle, Fletcher Holmes \& Co., Minneapolis, Minn.: Three double machines; H. F. Neikirk \& Son, Keedysville, Md.: One
louble machine; J. J. Manker \& Co., Red Oak. Iowa: Four double machines and other machinery, to refit
their mill; J. w. Pickle, Cambridge, Neb.: A No. our break reduction machine, two double roller
mills, complete outfft for remodeling his mill to the A complete line of rolls and other machinery, to
nake their mill a roller mill; Messrs. Walbert \& Mentzer, Columbus, Kas.: Four double machines
ard necessary machinery to place them in the path
to riches, viz: a roller mill; Stroup Bros., Oaktleld, Wis.: Four double roller mills, all completd, also
eeels, purifiers, iron work, etc., to put the mill on the
oller system; J. P. Parker, Rip ley, 0 . A double

The Case Manufacturing Company, Columbus, Ohio, have received the following orders during the past
month: From Shanower \& Thomas, Plymouth Ind., bolting chests, etc., for a full roller mill on the Case system; from Richter \&Co., Williamstown, W. Va., for
one patent automatic feed for their Odell rolls; from L. D. Lenord, Empire, Wis, for a full line of breaks,
rolls, purifiers, centrifu gal reels, etc., for a gradual ner, Keyser, Va., for two pair rolls, with patent Widor two automatic feeds for their "Allis rolls:" from with patent automatic feed; from James Comming, Lyon, ontario, Canada, for ; one Little Giant break
machine; from A. P. Dike, Skidmore, Mo, for four sets of rolls, with automatic feed, and other machin-
ry; from Laggate \& Everden, Centerville, Ind ne No. 2 single purifter; from J. C. Beery, Edon,
Va., for a complete outfit of breaks, rolls, puriflers, eentrifugals, etc, for a full gradual reduction mil
on the Case system, twelve pairs of rolls, with automatic feed, will be used; from D. M. Willis, Ridge-
way, Ill., for a full line of breaks, rolls, purifiers, centrifugals, sealpers, etc., fourteen pairs of rolls
will be used: from J. J. Brooks, Conshohocken, Pa., or one pair rolls, with patent automatic feed; from
L. H. Seidell, Allentown, Ohio, for two pairs rolls, Odebolt, Iowa, for a fuli line of machinery for :a complete gradual reduction mill on the Case system,
twelve pairs of rolls, with patent automatic feed, will be used in connection with their puriflers, scalping
reels, centrifugals, bolting chests, etc.; from The Great Western Manufactuing Company, Leaven-
worth, Ks., for ten pairs of automatic feed; from Burroughs \& Pierson,
Flint, Mich., for one No. 2 single purifler; from $F$. Flint, Mich., for one No. 2 single purifler; from $\mathbf{F}$.
R. Fleteher, Decorah, Iowa, for two pairs of rolls, with patent automatic feed, to be shipped to J. T.
Graham, Rockford, lowa; from the Edgerton Mill Co., Edgerton, Kan., for one pair rolls, with patent
utomatic feed; from 0. L. Thompson, Thompson ille, Kans., for a complete outfit of breaks, rolls, purifiers, scalping reels, bolting chests, etc., for a full
rradual reduction mill on the Case systemt-he mill, when complete, will have a daily capacity of from
100 to 125 barrels; from Wm. E. Catlin \& Co., Chicago Ill., for one pair of rolls for G. G. Bonus, Sheldon,
lowa; from Meclain \& Hunt, Belle Vernon, Pa, lowa; from McClain \& Hunt, Belle Vernon, Pa., for
breaks, rolls, purifiers, centrifugals, scalpers, bolting reells, ete.; From Thomas Sharp \& Co., Salem, Ohio,
for two pairs of rolls, with automatic feed; from
Chamberlain \& Post, Bull City, Kans., for breaks, scalpers, puriffers, ete.; from J. S. Allender, hal reduction mill on the Case system, ten pairs of scalpers, puriflers, centrifugals, bolting chests, etc. ne "Little Giant" break machine and scalper com bined, making two separations, and two pairs of
rolls, with patent automatic feed; from Balkay Murray, Fredricktown, Mo., for a line of braaks, rois, purifters, centrifugals, sealpers, ete, for a grad
ual reduction mill on the Case system; from Geo. 8 .
Riekard, North Colume, rolls, with patent automatie feed, and other ma-
chinery; from Hammond \& Benedict, chinery; from Hammond \& Benedict, La Grand,
Iowa, for two patent automatic feeds for their Dak, for breaks, rolls, sealpers, centrifugals, etc.;
from J. R. Barket $\&$ Co., Terre Haute, Ind., for one three roll break machine, to be shipped to J. S. Reid
\& Son, Sullivan, Ind.; from Thos. Shank $\&$ Co, Salem, Ohio, for two pairs of rolls, with automatic feeds, to from E. W. Gillis, Morenci, Mioh., for one "Little Giant" break machine and scalper combined, mak-
ing three separations; from Riehter \& Co., Williams town, W. Va., for two pairs of rolls, with patent auto-
matic feed, and other machinery; from J. B. Fieklin, Frederieksburg, Va., for a "Case" automatio feed
or his porcelain rolls; from Nocedah Flour Mills C Necedab, Wis., for one No 1 double purifler; from Barnard \& Leas, Moline, Ill., for one $9 x 12$ reducer a Kcaiper, making three separations, to be shipped
to Kuhn \& Roush, Manning, Iowa; from W. P. Ham baugh, Ringgold, Tenn., two pairs of rolls; from Geo.
Leggate, Centerville, III., for two pairs of rolls, with bridge put in its place. All the work was
performedin seventy-five minutes. The iron performed in seventy-five minutes. The iron
bridge was built upon a temporary trestling north of the frame structure, and as soon as the old bridge was removed the new slid gracefully down greased tracks to the posigracefully down greased tracks to the posiengineering was witnessed by a large feat in engineering was witnessed by a large gather-
ing of persons. The structure is thirty feet ing of persons. The structure is thirty feet long and weighs about twenty tons.-Norrisown Regester.
A Remarkable Chimney.-The big brick chimney stack of the New York SteamHeating Company is a matter of comment with every one arriving in that city by water for it can be seen for miles. This chimney was a creature of circumstances, it being necessary to place within a very limited area a very large boiler capacity, viz., 19,000 horsepower. This was done by making four stories of boilers; the chimney was therefore neces sarily located with reference to these boilers and the plan of the chimney was determined by the shape of the lot. The beach of the Hudson River was at some time at this locality, and the foundation of the chimney was placed in fine, clear beach sand, with some pockets of coarser sand and a little stone The foundation is one foot below high water The chimney is 27 feet 10 inches in the clear inside, and is 8 feet 4 inches wide. The height is 220 feet above high water; 221 feet height the foundation; 217 feet above the basement floor; 201 feet above the grates of the lower tier of boilers, and 141 feet above the grates of the upper tier of boilers. The thicknes of the walls on the interior of the building runs from 5 feet to 20 inches, on the other side from 3 feet to 20 inches, The other each chimney are taken from 30 bases for 250 horse-power each. The fuel used is the finer grades of anthracites, pea and wheat, per day. They did run on soft coal for a days, but the smoke was complained a few A NEW question is bothering local politicians in Texas. Many farmers and planters soon as the seed to mortgage their crops as soon as the seed is put into the ground. This crops in freshets swept away the growing crops in many localities, and being late in the season, seed of another kind, was sown The question is, does the mortgage hold good party lines have been drawn on this issue and it promises to be as important in deciding the fate of local aspirants for political fame as the hog question in some Western
towns. In many towns the question whether towns. In many towns the question whether the streets is greater than the tariff question.
There is a machinist in Sing Sing prison who attempted to make use of his artisan skill to escape from that stronghold of maleof the prison he secretly designed and constructed an apparatus resembling a diver's helmet, which he intended to strap on his head, commecting with its top a tin air pipe and by traversing its muddy bottom wade to freedom. The tin pipe was to reach clear of the water, and by that means was to supply the inventor with air.
About ten years ago a powerful stean stone-breaker was exhibited at Paris, the much was the surrounding masonry. that an engraver on glass, carrying shaken ness in the neighbortass, carrying on business in the neighborhood, suffered great insue his vocation. Hasolutely unable to purinjunction, restraing applied for a temporary stone-breaker from using proprietor of the foundation of from using the machine. The roundation of ordinary masonry was then removed, and one of asphalt substituted, that no more tremor existed ane, it was found restored.-The Industrial Review. peace was restored.-The Industrial Review.

OUR VISITORS.
During the month of August we have been favored with calls from the following gentleD. G. Tepper, of The Millers' Journal, New York.

Daniel E. Dowling, Metropolitan Mills, N . City
Louis Gathmann, Esq., of The Garden City Mill Furnishing Co., Chicago., Ill.
Wm. Trudgeon, of The Richmond Mf'g.
Co., of Lockport, N. Y.
W. W. 'Beardsley, of The Case Mf'g Co. Columbus, Ohio.
F. E. Klopfleisch, Milwaukee.

John P. Brining, of The Geo. T. Smith Mid ilings Purifier Co., Jackson, Mich. A. L. Rice, Aurora, III.
J. C. Arthur, Cawker City, Kansas.

SPECIAL BUSINESS NOTICES
ABOUT THE CURTIS' HELFRICH GRAIN CLEANER.

The following letter has just fter, and speaks for itself.
Office of Chas $A$, rtis Helfrich, June $\mathbf{Z 6}$.
Gentlemen: "We City.
f your new Wheat Clusing a number well satisfied with them Weaners, aud are it a superior scouring machine, especi ally for cleaning and putting in milling condition, smutty wheat whg in milling very thorough scouring in order to mill it at all.

Very truly yours,
CHAS. A. PILLSBURY.
MILL COGS AND CONVEYOR FLIGHTS. Cogs to order on shortest possible motice. Large stock of conveyor flights on hand. N. P. BOWSHER. South Bend, Ind.

BOLTING CLOTH!
Don't order your Cloth until you have conferred with us; it will pay you both in point of quality and price. We this work. this work. Write us belor you orter

CASE MANUF'G CO. OFFICE AND FACTORY:
Fifth St., North of Waughten,
COLUMBUS, UHIO.

## FOR SALE.

A horizontal boiler and engine in first-class condition. Boiler 15 horse power. Engine RIVERSIDE PRINTING OFFICE, 116 and 118 Grand Avenue, Milwaukee. Also Feed Water Heater and line of Shafting.

WANTED Immediately, a permanent sitMill. Have worked second in Burr Mill. Am single, and can give reference. Addres
JOHN L. MILLER, Allen Co., Lima, Ohio.

PIRGE \& GMITE PRACTICAL
willwhilifis
PLANS, SPECIFICATIONS \& Estimates MILLWORK, MACHINERY, ETC. Flour, Sawmill, Tanners' and Brewors' Machinery, and General Mcill Furnishors,
Corner of East Water and Knapp Sts.,
MILWAUKEE,
[Please mention this paper when you write to


GANZ \& CO
Budapest, Austria-Hungary.

We are the first introducers of the Chilled Iron Holl-
ers or milling purposes, and hold Letters PPatent for
the Uniting states of America. For full particulat address as above


Milwaukee \& Northern Railroad. THE OLD KELIABLE ROUTE 17 Miles the Shortest Line GREEN BAY,

## Oconto, Fort Howard. Depere, Menasha

 Neenah, and AppletonMarinette, Wis, and Menominee, Mich

New London, Grand Rapids, and all points in
OENTRAL AND NORTHERN WISCONSIN. The new line to Menominee is now completed, and
opens to the public the shortest and best route to all T PLYMOUTH CONNECTION 4
AT PLYMOUTH with the Sheboygan and Fond du
Lac Division Chicago \& North-Western R'y for She
boygan and Fond du T FOREST JUNCTION with Milwaukee, Lake Shore
 points North and West.
C. F. PUTTON, REGAN,

TRIUMPH" CORN SHELLER 2000 BUSHELS PER DAY. Shells wet or dry corn. PAIGE MANUF'G CO.,

## YISCOVSINTRAL

3 TRATING EACH WAY DAILY KEE, FOND DU LAC, OSHKOSE,
NEENAH and MENASHA.

PARLOR CARS
gn Day Trains Nov de plogant Eleopere
 Also a superb Sleeper from Milwaukee to Neenah
attached to the same train, leaving Milwaukeeat mid-
night. N. B.-This SSeeper will be ready for passen

2 TRALINGEACH WAY DAILY MILWAUKEE aUd EAU CLAIRE.
1 AShlamd DAILY TRAIN TO NO CHANGE OF CARS akee to Stevens Point, Ashland, Lake Super

F. N. FINNEY
$\qquad$
Improved + Walsh + Double + Turbine
 This wheel has a perfeet
fitting evvinder ga per and
draft tuble combineed and
drlows no
when closed.
water to escape
POWER GUARANTEED
equal to any wheel on the


## B. H. \& I. SANFORD,

Phenis Iron Works,
Sheboygan Falls, Wis.



We are continually in receipt of such letters as this one from M．Simpson．We have never seen Mr．S．or asked him to write us a word for publication．We can do as well for any other miller．We are having more orders than ever before for our well known Case Purifier，and so of our Centrifu－ gal Reels and＂Bismarck＂Rolls， all of which，with our other spe－ cialties，give us great advantage in equipping Roller Mills．Our machines are all adapted to each other．The miller gets the bene－ fit of＇this in price and conven－ iences．Those who attend the approaching St．Louis and Louis－ ville Expositions will see a line of our machinery．


＂Little Bisnarck．＂

This is the little machine that is producing such splendid results in so many small mills．

Made in Sizes all the way up to $9 \times 30$ inch．
$\xrightarrow{\text { sid }}$
＂Well，the mill runs splendid and we are making flour that is a little ahead of any brand of Roller flour in our market，and we have several of them，so our customers and dealers ALL say． We tried to be equal to the best， butito be better was better than we expected．
It gives the Case Rolls a good send－off．We do the same work with three－quarter of the power that we took with stones．All who come to examine the Rolls and work leave with minds made up that the Case Rolls are THE Rolls．I enclose N．Y．draft \＄

Yours truly，
A．SIMPSON．
Owatonna，Minn．，Aug．12，＇84．＂
っだだ

If you want machinery write us．If only advice and information，write us all the same．

## CASE MAMUFACTURIIIG CO．，Columbus， $\mathbf{0}$ ．

| Made entirely of STEEL ONE MAN with it Cal easily move a loaded car Will not slip on tice oy grease． <br> Manufactured by |  |
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|  | E．P．DWIGHT， |
| PUSENR $\begin{aligned} & \text { Dealer in Rtary St，Philadelphia，Pa．} \\ & \text { Libres }\end{aligned}$ |  |
| ntion | paper when you write to us．］ |

## WALKER BROS．\＆CO．， <br> FloUR AND Grain Commission Merchants TRINITY SQUARE， <br> IONION，E．C．，－ENGLAND．

FROM $1-4$ to 15,000 LBS．WEIGHT． True to Pattern，sound，solid，free from blow－holes，and of un－ Stronger，and more durable than fron forgings in any position or
 CRANK SHAFTS and GEARING specialties． Send for Circulars and Prices to

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Rolls Re－Ground
and re－corrugated to order， Also，Porcelain Rolls Redrssed． Our Machinery for this purpose is very accurate．Can do work promptly．
Case Mfg．Co．，Columbus，Ohio．


## The Largest Mill Furnishing Establishment in the World.

## REILIANOE KVOREKS, EDW. P. ALLIS \& C0., Proprietors.



MILWAUKEE, WIS., U. S. A. SOLE MANUFACTURERS OF GRAY'S PA'TEN'T Noiseless Belt Roller Mills

## Wegmann's Patent Porcelain Rolls.

Unexcelled for reducing Middlings to Flour.
Far ahead of Smooth Iron or Scratch Rolls and entirely superseding the use of Mill


#### Abstract

Read the F"Ollowing Ietters.

Messrs. E. P. Aldis \& Co. Kings County Flour Mills. Brooklyn, N. Y., Aug. 15, 1582. MessRs. E. P. AlLIs \& Co. Gentlemen:-You ask how 1 Iike the Porcelain Rolls as compared with Mill stones, I have been using the original Porcelain Gear Nachines for five years and became con vin Vinced a long time ago that Nill stones could not produce as satisfactory results. I am now operating your working without noise with Gray's Patent Belt Drive. The Flour it produces is beautifull grainy and strong, and its capacity two or three times more than the old Gear Machine. with costly stone dressing and for reducing middlings and soft branuy residuums and teis ings is unequaled by any Machine, iron or stone, at least this is my opinion after five years of practical experience. Yours truly. JOHN HARVEY


Terre Haute, Ind., Aug. 22nd, 1882.
Messrs. E. P. Allis \& Co., Milwaukee, Wi
Gentlemen :-We are very much pleased with the whole eight set of Porcedain Rolls you put in our Mill. The two double sets sent us soon after starting up our mill last fall, we put in place of two run of stones for grinding our coarse Middlings.

We find the Flour from the Porcelain Rolls much more evenly granulated and much sharper and cleaner than that we got from the stones, besides the second or fine Middlings are much better, being almost entirely free from germs and not as specky.

Yours Truly,

KIDDER BROS
ALSO SOLE MANUFACTURERS OF THE CELEBRATED

## REYNOLDS' <br> 



These Engines are especially adapted for use in Flouring Mills-being unsurpassed in Simplicity, Durability and ECONOMY OF FUEL, and far ahead of any other

Automatic Cut-off Engines.

Send for catalogues of Roller Mills, Flour Mill Machinery, Saw Mil Machinery, Reynolds' Corliss Engines, etc., etc. Address

Edw. P. Allis \& Co. milwaUkee, wis.

The following is a partial list of Flouring Mill owners who are using the Reynolds' Corliss Engines.

## Lagrange Mil. New Era Mills. aisy Flour Mills W. D. Washburn \& Co Archibald, Schurmeier \& Smith Milwaukee Milling Co Stuart \& Douglas. Stillwater Milling Co Otto Troost. E. T. Archibald \& Co. Gardner \& Mairs J. Schuette \& Bro Minnetonka Mill Co J. D. Green \& Co. . A. L. Hill. Beynon \& Maes Eagle Mill Co

 Geo, P, Kehr. Winona Mill Co
Forest Mill Co

## The Cummer Automatic Engine Ease of Operation, Effective Duty, Close Regulation, <br> In Quick Starting up to Speed, Uniformity of Speed and Economy of Fuel. <br> 

[^11] Ensine.

It is the best engine made.
[Please mention this Paper when you write to us.]
GUMMER ENGINE CO.,



Flint Pere Marquette R. R. LUDINGTON ROUTE.

Fast Freight \& Passenger Line.
Freight Contracted on through Bills Lading Michigue, India OH:
Michigan, Indiana, Ohio,
New York, Pennsylvania,
New Enghand \& Conada. at lowest rates.
All freight insured across Lake Michigan.
Passengers save $\$ 2.75$ to all points East. Passengers save $\$ 2.75$ to all points East. Dock and Offices. No. 24 West Water St.,
one block from Union Depot. L. C. whitney,

## Nordyke \& Marmon Co., INoIaNapolis, Ind. <br> bUILDERS FROM the RAW MATERIAL OF



Flour Bolts, Scalping Reels, Aspirators, Millstones, Portable Mills,


## 

## 500 BARREL MILL IN MISSOURI.

read what an old miller, who has thirty-four pairs of these rolls in constant use, says:

 where sold. It yives universil satistaction, and we have it scattered on the trade from Chicaro to Galveston. Texas. Our yields are all that are We have not changed a spout or a foot of cloth, nor have we found it required to make any changes, We haye run as long as six days and niphts

 500 BARREL MILL IN ILLINOIS.


 125 BARREL MILL IN INDIANA.





## The United States

# OHE OF THE RIND OF MILLS WE BUILD. 

 THE JOHN T. NOYE MFG. CO., BUFFALO, N. Y.GENTLEMEN:---Since putting in the rolls made by you, and changing the bolting arrangements as advised, I have been running night and day, turning out over tuo hundred barrels of flour per tuenty-four hours, with a yield surprisingly under $4_{60}^{30}$. Idoubt if our flour can be beaten in this country. This statement is pretty strong, but can be backed up. I can clean the middlings so that there is not a particle of flour left. Millers coming here to see our offal, do not believe but I have some secret way of manipulating the material. It is all square milling on superior rolls and with a superior system. I could not fill my orders if I had double the capacity.

Yours iruly,
J. R. SCHALL.


## ODELL'S ROLLER MILL SYSTEM.

Is now in successful operation in a large number of mills, both large and small, on hard and soft wheat, and is meeting with Unparalleled suceess. All the mills now rumning on this system are doing very fine and close work, and we are in receipt of the most thattering letters from millers. References and
to parties using the Odell Rolls and System, will be funished on application to all who desire to investigate.


## ODELL'S ROLLER MILL,

## AN ESTABLISHED SUCCESS

$\rightarrow *$ POINTS OF SUPERIORITY $*$ *
possessed by the Odell Roller Mill over all competitors. all of which are broadly covered by
patents. and cannot be used on any other machine. patents, and cannot be used on any other machine. of the four rolls a separate driving-belt from the power shaft, thus obtaining a positive differenticl motion which cannot be had with short belts. 2 . It is the only Roller Mill in market which cron instrontly be stopper without
throwinf off' the driviug-belt, or that has adequate tightener devices for taking up the stretch of the driving-belts.
3. It is the only Roller Mill in which ome movement of " hamd-l-ver spreads the lever brings the rolls back again exactly into working position and at the same time turns on the feed.
4. It is the only Roller Mill in which the movable roll-bearings may be adjusted to and
from the stationary roll-bearings without disturbiug the teusiou-spring. 5. Our Corrugation is a decided advance over all others. It produces a more even granu-
lation, more middlings of uniform shape and size, and cleans the bran better.

We use none but the Best Ansonia Rolls.
OUR CORKUGATION DIFFERS FROM ALL OTHERS, AND PRODUCES
Less break flour and MIDDLINGS of Better quality.

[^12]
## To Seftlea a Dispoted Question !

Owing to the fact that we are the only manufacturers of Roller Mills in this country who are authorized to build and sell machines containing Porcelain Rolls under the Wegmann patents, our business competitors have from motives of policy, been forced to oppose the introduction and use of the justly

## $\equiv$ CELERABTED $\mid \equiv$

Wegmann Porcelain Roller
$\qquad$
of which we are the exclusive licensees and sole manufacturers in America. As many millers have not yet given the Porcelain Rolls a practical trial, but have formed their opinions of their merits wholly from hearsay evidence, we desire to give millers generally an ample opportunity to determine for themselves, from a thorough trial in their own mills, the merits or demerits of Porcelain Rolls, and, therefore, make the following


We will sell any miller who is now grinding purified middlings on millstones, smooth iron rolls or scratched rolls, one of our

## Graj's Noiseless Belf Drive Porcelain Roller Mills,

of suitable capacity, at our regular prices, and if the result of an impartial and careful trial does not establish the fact that the Porcelain Rolls are superior to either millstones, smooth iron or scratch rolls, for the purpose for which we recommend them, we will replace the Forcelain Rolls with either smooth or scratched iron rolls, allowing the difference in price; or the entire machine may be returned to us at our expense. Where millers desire, we will send a competent miller to instruct them in the proper handling of the Porcelain Rolls without expense to them. Our offer is made with the purpose of placing it in the power of every miller to satisfy himself that he is using the best machine for flouring purified middlings. Millers desiring to avail themselves of this offer should send sample of stock they wish to reduce, stating capacity required, to

# EDW. P. ALLIS \& C0., <br> Reliance Works, Milwaukee, Wis. 

[^13]

MILW A UKEE, OCTOBER, 1884.


## (Abridged from Die Muehle, of Leipzig, for The Miller London.)

beneral meeting of the association of GERMAN MILLERS.
The sixteenth general yearly meeting of the Association of German Millers was held in the city of Breslau, Prussia, on the 22d, $23 \mathrm{~d}, 24 \mathrm{th}$, and 25 th days of June last, under the presidency of Herr J. J. van den Wyngaert, who has now for many succe
filled the chair of the Association.
Breslau, the capital of Silesia, is Breslau, the capital of silesia, is held to be the third city of Prussia, and is unquestionably one of the most importary It lies in German or wide-spreading but richly cutivated plain bounded by the picturesque Trebnitz and the tourist and holiday maker. Altogethe it must be conceded that Breslau was happily chosen as the meeting place for the annual gathering of the Association of Germa gatherin
Millers.
Sund
Sunday, June 22, the first day, was marked by a committee meeting, held at Liebich's
Etablissement, at 10 A . M., for the transaction of formal business, and to prepare the sylla bus for the great meeting on the coming day. A social gathering took place at 6 P. M. on the Friebe Hill.
The first general meeting was held on Monday, June 23 , at 9 A. M., and in the sam the chair being filled by Herr J. J. van de Wyngaert, who opened the proceedings. After some graceful and complimentary re marks from the president, Herr Schmook, a member of the Town Council of Breslau, and Herr Iwand, president of the Silesian branch of the Association, the serious business of the day was proceeded with, and the chairman laid before the meeting a brief account of the work accomplished by the Association in the twelve months elapsed. He referred, among other subjects, to the award of onehalf of the reward offered by the Association for the best essay on the "Adulteration of Wheat and Rye Flour," to the work of Dr. L. Wittmack, to the success of the milling school of chemistry, and to the recision of the minpresident concluded his remarks by expressing his regret that so few millers should have taken advantage of the facilities placed in their way by the Minister of Agriculture for the analysis of grain, and he made a formal appeal to his hearers to send on samples of wheat, not weighing less than three kilogrammes (somewhere between 6 and 7 lbs .)
Herr Klix, of Bärwaldt, then shortly addressed the meeting, prefacing his discourse with the remark that he was about to consider where the shoe pinched. He had no doubt that his milling brothers present all knew where the shoe pinched as well as he did, but no one seemed able to propose a remedy. To his way of thinking, a miller was a man who worked very hard and worried his life out for very small gain. Milling had been transformed by the great advance made in mechanical science during the past ten years, but were millers the better as a body? The only clear fact, to his mind, was that great mills, backed by large capital, were able to adoptsuch of these new devices as they chose, and to compel their poorer brethren to try and follow their example. For his own part, he thought it was high time to cry "hold hard" to the inventors, and to see what their inventions were practically worth. A certain professor had divided the manufacturers of machinery into two classes-those who made machines to sell, without caring whether the purchasers had to dispose of the same machines to the dealers in old iron or not, and those who were really competent engineers. Now millers wanted to make the acquaintance of engineers of the latter description, and if any man came to know a furnisher who sold good machines, why, let him tell it straight out to the committee in Berlin, so that every miller might know where to go for good advice. Herr Klix held that millers would do well not to keep their mouths shut like peddling
hawkers, afraid of putting a penny in a riyal's
pocket, but to tell out what they knew like men. For if these general meetings were to
be of real use they should serve to collect all be of real use they should serve to collect all
that was known on the art of milling, so that each man might feel he had a personal share in helping the craft along. (Cheers.)
Herr Gessner, of Oelde, entirely agreed
with the last speaker. He himself thought with the last speaker. He himself thought
it would be a pity if the central committee, it would be a pity if the central committee,
and the committees in the province, did not find some way of helping millers to avoid th itfalls around them.
After more remarks, the president observed that it might be possible for a mill to be
erected, at the cost of the State, which might erected, at the cost of the State, which might means of testing the value of milling mahinery.
The president then spoke at some length on the new law for the insurance of workmen
against injuries, the principle of which he generally approved, although he criticise some of its details. It was proposed that the
Committee of the Association be empowered Committee of the Association be empowere
to arrange with the Government, within fou months after the coming into force of the law Insurance Society that should extend its op Insurance Society that should exten Empire It was pointed out that it would be well for the milling trade to go forward and meet the insurance of workmen, and that millers were far more likely to be able to insure their men n favorable terms when working in a power little discussion if acting alone. Afte unanimously.
Herr Heyn, of Stettin, then read a pape " "Turbines." The proceedings of the secon day were closed with a banquet held at in the afternoon in the Liebich Rooms. On the morning of the 24th, the Associa tion held a second general meeting, the pres ident taking the chair. The proceedings sheet, which was held to be satisfactory showing a balance of 29,767 marks, or say $£ 1,547$. The choice of the meeting place hand, and after some little discussion, Munich, in Bavaria, was unanimously seected.
The president then read a letter of invita ion, addressed to the Association by th National Association of British and Irish Millers, then assembled at Stockton-on-Tees and on the motion of Herr Lehmann, o
Liebsgen, it was resolved to dispatch a greet Liebsgen, it was resolved to dispatch a greet Herr Tschmarke, of Magdeburg, then re Herr Tschmarke, of Magdeburg, then read
his report on the condition of the Fire Insurance Association. [It should be explained ance Association. [It should be explained
that the Association of German Millers have at present a convention with the Magdeburg Fire Insurance Company, members of the Millers' an insure their mills Association at relatively easy rates.] Herr Tschmarke regretted the unsatisfactory nature his report, which tended to show that with the development of scientince increased instead of ing, the danger from fire increased instead of
diminished. A single glance at the books of diminished. A single glance at the books of
the company would bear this out. From the 1st of July, 1880, to the 1st of July, 1883, the ist of July, 1880 , to the ist of Jowed up by fire proportion of premiums swal 96.72 per cent. whereas at the present time noless than 98.11 whereas at the present of the premiums was called to pay per cent. of
fire losses.
Herr Stege, of Pasewalk, whilst deploring the losses in tlour mills from fire, saw no other course than to subject all flour mills to a rigid system of inspection at the hands of properly qualified officials. The latter might exercise a wholesome pressure upon millers by grading mills according to the perfection or other wise of their organization. Of course, those millers who had done their utmost to place their establishments on a sound footing would be rewarded by paying the lightest premium.
grade the higher the premium.

Herr Schäfer, of Mayence, thought the danger of fire was greatly increased by night work, and that it would only be fair for milers whose mills ran right through the twentyfour hours to pay enhanced premiums. If
should very much like to see the comparativ should very much like to see the comparative
statistics of mills burned out in the night as statistics of mills burned out in the night as compared with those taking fire
After further discussion, Her Ts ated that he considered the plan of inspection both practicable and hopeful. He as Herr Schäfer had called for, should be orthcoming.
The question of the tariff on grain, flour and fodder was then introduced by Herr Joseph Stern, of Königshütte, who remarked vantage on having to pay a duty on their raw material, which the foreign manufacturer of lour escaped. He had no doubt that hese duties had wrested from Germany supremacy in the flour market that should
have been hers, but he feared that it was too ate to restore this position, even by a repeal
the duty in question. He wanted, hower, to show that under the existing treaties of commerce, foreign millers had the priviege of importing their fodder in general, and German particular, free of dus, wone into bran is obliged to pay toll on the material pon which he proposes to work.
Herr Hirschberg, secretary to the Bromberg Chamber petition for the submitted the the Association, that "the Association of German Millers prays that the Imperial Gov ernment will lighten the incidence of the heavy burden laid on the milling industry by the tax on wheat, by imposing a duty of of imported bran." Herr Hirschberg fully recognized the justice of Herr Stern's remarks on the disability imposed on millers by the
rain tax. This impost, however, yearly brought a large sum into the Imperial treas wry-last year, for instance, its proceed
amounted to $18,000,000$ marks, or roughly $£ 850,000$, and its remission was, for variou iscal and political reasons, out of the question.
As the necessities of the Empire had placed millers in this disadvantageous position, i only wouldbe just for the State to redress he balance by such means as pre
fter a few words from Herr Gregory, Iochst, who remarked that as bran, regarding, as he did. in all his brethren in the South, common wit lour as the only real equivalent for the pres ent impost on wheat, the resolution was put to the meeting and carried by a large maority.
Herr E. H. Hoffmann, architect, of Berlin, read a paper on stone buildings, and the meeting closed by a short discussion on Sunday labor in mills, in which the president of the Association took part among others. The conclusion arrived at was, that although a law specially regulating the question is much looked for at present. It was stated that the practice of Sunday labor, although of doubtful legality, prevails extensively in many parts of Germany-wherever, in fact, the local police and other authorities choose to shut their eyes.
The proceedings were terminated by votes of thanks to the president and to Herr Woltersdorf, chairman of the committee. A trip by steamboat down the river to Wilhelmsby train to Freiburg and Firstenstein on the following day, were thoroughly enjoyed, and concluded one of the most successful meetings the Association of German Millers has yet had the fortune to hold.

## statistician walker's views on the

WHEAT AND EXPORT GRAIN TRADE,

## lower in Great Britain to-day than ever be

 fore; that the price is lower here than since1851, and that freights by steam and sail from indicate that the consumers of Europe are to be fed entirely upon the products of American farms this year. In fact, ship-owners and shippers of American produce would feel greatly encouraged if prices for grain
were higher; for high prices follow limited crops, and low prices are governed by inreased products. But while the trans-Atlantic tonnage under foreign flags is not to be
favored with large freights, the consumers favored with large freights, the consumers
may hope to receive the benefit in the cheapenmay hope to receive the benefit in the cheapen-
ing of food, and know at the same time that their hard-earned money is not to be sent over to the other side of the Atlantic for it. They may also feel encouraged in the fact
that, although there have been unusually large crops in Europe, one-fifth of the requirements must come from American soil, and the American farmers will thus be benefited that extent. The price of No. 2 red winter at present) in New York to-day is $86 \frac{1}{2}$ cents a bushel, and lower than before since 1851. The price of the same wheat in Liverpool is As to the causes of low prices, and regarding he present condition of the grain crop, A H. change, and recognized anthority, says "There are many circumstances which combine to cause low prices. First are the freights. Great Britain, you know, owns The tonnage for eighteen months past has not made a dollar above the actual running expenses. At the same time the property has depreciated from 10 to 15 per cent. a year. Hence, low freights. The oversupply of tonage more nearly equalizes freights throughout the world than was ever the case before. Another cause is the unprecedented fine condition of the wheat crop in Europe at the time of harvest. It was gathered in a condition to go direct to the flouring mill. There was an average wheat crop throughout Europe, and the home growth was about eighty per cent. of the requirements; thus leaving 20 per cent. to be supplied by other countries. The wheat crop here was about ield of winter wheat quality, the average bushels to the acre. The total yield of wint and spring when will amant of winter hundred million bushels. Its condition was prime, and was harvested ready to be threshed. Usually the grain at harvest is in a damp condition, unsuitable for flouring, and a large proportion being necessary to stack for curing. Its excellently cured con-
diton this year makes the crop of Europe immediately available.
"Another cause for the low prices is the labor in Europe. Ship building in Europe is checked, mining is less active, the manufacture of all kinds of iron is diminished the woolen mills are running on short time, and the non-employment of labor curtails
their ability to purchase-hence, diminished consumption. Although wheat is so cheap in Great Britain especially, the loaf of bread making bread the most expensive food of the day. Another of the reasons for low prices of wheat is the full crops all over the world. The condition of the new crop of
corn is promising. If good weather continue corn is promising. If good weather continues is that there are no heavy frosts, the probability fore and of good we larger than ever becondition than any year since 1870 , and a pro duction of $1,800,000,000$ bushels. The exports of corn for the past eight weeks have been slack, those from Atlantic ports showing a decrease of $6,000,000$ bushels, as compared This the corresponding eight weeks 1883. This increase is due to the prices being
greater than for the low grade of wheat which is substituted for corn for food consumption. A confirmation of this is the fact sumption. A conirmation of (flour included) for the past eight weeks have been $21,147,108$
bushels against $14,585,405$ bushels."-New

THE UNITED STATES MILLER

United States Miller. PUBLISHED MONTHLy Sprice No.
Soreign Subseripe............81.50 per year in in advance.
Forin in advance.

MILWAUKEE, OCTOBER, 1884.
ANNOUNCEMENT
ng Wm. Dunham, Editor of "The Miller," 69 Mark Lane,
nd Henty F. Glulig \& Co., 449 Strand, London, Engand Henry F. Gillie \& Co., 449 Strand, Lonton, Eng-
land, are authorized to receive subscriptions for the United states Millek.

## We send out monthly a large number of sam ple coples of the ONITED STATES MILLER to <br> millers who are not subscribers. We wish them <br> cordial invitation to them to become regular subscribers. Send us One Dollar in money or <br> stamps, and we will send THE UNITED STATES

The United states Consuls in various parts of the world who receive this paper, will please oblige the publishers and manufacturers advertis-
ing therein, by placing it in their offices, where it can be seen by those parties seeking such information as it may contain. We shall be highly gratified to receive comnunications for publication from
Consuls or Consular Agents everywhere, and we believe that such letters will be read with interest and will be highly appreciated.

## TO ADVERTISERS.

Milwauke Wis., October, 1884 Milwakee Wis., October, 1884 .
To Those Interested in the Flouring Trade:
The United States Milesr is now in its ninth The United STATES MhleER
year, and is a thoroughly estabhed and much
valued trade paper. It has a large regular list of
domestic and foreign subscribers. It is sent monthly domestic and foreign subscribers. It is sent monthly
to United States Consuls in foreign countries, to be
filed in their offices for inspection by visitors. It is
on file with the Secretaries of American and fo United states ile ilt offices for inspection by visitors. It i
file fith the Secretaries of American and
on furopean Boards of Trade for inspention of mem
Eur bers. Aside from the above, thousands of sAMPLE
copiEs are sent out every month to flour mill owners
who are not subscribers, for the purpose of induc-
ing them to become regular subscribers, and for the beneftit of those advertising in our Columns. Every
copy is mailed in a separate wrapper. Our edition copy is mailed in a separate wrapper. Our editions
have not been at any time since January, 1882 , less of that (see affidavit below). We honestly believe of that (see affidavit below). We th UnTred States
that the advertising columns of the Unile
Miller will bring you greater returns in proportion to the amount of money invested than any other
milling paper published. Advertisers that have tried milling paper published. Advertisers that have tried expressed themselves well satisfled with the resuits
Our advertising rates are reasonable. Send for
estimates, stating space needed. The subscription price of the paper with premium is One Dollar per
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respectfully invite you to favor us with your patron-
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Catalogues, and also trades items for publication free of charge. Trusting that
favored with your orders, we are

United States millek. e. Harrison Cawer. Publisher




Owing to the removal of the office of the United States Miller from No. 116 to No. 124 Grand Ave., our Journal is behind
time this month. We trust our readers will time this month.

Mr. Dalrymple, the great Dakota farmer is credited with saying that he can raise wheat for 35 cents per bushel without abso-
lute loss. But it all depends upon the yield. lute loss. But it all depends upon the yield.
If he has 25 bushels per acre, he would realize $\$ 8.75$, which might pay him for the labor involved, seeing that his land is all broken. But if the expense of breaking be per acre.

LEFFEL'S HOUSE PLANS. We have received a copy of the above enitled work, which is meritorious indeed The work presents plans, specifications and estimates for houses of moderate cost, suit-
able for the mechanic or moderately well off able for the mechanic or moderately well off
business man. We cheerfully recommend business man. We cheerfully recommend
it to those intending to build houses of modit to those
erate cost.

## THAT BRAN PACKER

We are informed by the best of authority that a very large number of plans, specitica tions and models of machines for packing bran have been received, many of which show great merit. It will probably be which is really the best machine and to whom to award that $\$ 1,000$ prize
We heard a prominent miller say not long since that he thought this country would be better off if no machine was invented which
would make it possible to export bran in large quantities to foreign countries-that every pound of bran should be kept here fo
the purpose of feeding to our live stock There is considerable in this argument, but nevertheless, if a good and economical machine is invented it will meet with a large
sale. We hope the machine will be invente and the inventor rewarded at the Decembe meeting of the Millers' National Association

## a curious case.

A curious case is before the tribunal in
Paris. A gentleman was getting down from Paris. A gentleman was getting down from an omnibus in a crowded thoroughfare, when
he missed his footing, nearly fell backward and, to recover his balance caught hold of another passenger. The latter, taken by surprise, also found himself in danger of falling, and, in his turn, caught hold of woman with an infant in her arms, the up shot being that all four rolled together into the road. along behind, which, had it not been for the prompt action of the omnibus conductor who seized the horse's head, would have run over some of the prostrate forms. As it was, the accident escaped with a few triflin bruises; the other male passenger, falling on him, was not hurt at all, and the infant was arm broken and sustained other severe in juries. Which of the two gentlemen should pay damages is the question-the one who him to do so by catching hold of him.

## SCHOOL FOR MILLERS.

Much has been said and written on this subject, but so far as we know, nothing has yet been done in this country to secure the establishment of one. That there is a de mand for an institution of this kind w
know, for scarcely a month passes but we ceive one or more letters from young men i various sections of the country inquiring if States. The modern systems of milling have be come very complicated and in order to lear
the trade in a reasonable time better advan tages than a young man is liable to receive tages than a young man is liable to
in a good mill should be obtainable.
Milling schools in Europe we are informed are profitable and well patronized. Many may say that the only proper school for
person who desires to follow the trade of person who desires to follow the trade of
milling is in the mill itself, but we all know milling is in the mill itself, but we all know
that it is difficult for an inexperienced person that it is difficult for an inexperienced perso
to obtain a situation in a good mill. W trust that the various State and National trust that the various State and National
Associations of Millers will not only talk this Associations of Millers will not only talk this
matter over again, but put. it in tangible form. If no private individuals desire to esform. If no private individuals desire to esa stock company and we are well satisfied that a stock company and we are well sation a lively
subscriptions for stock will come in a subscriptions forstock wil come ing, and that
rate from all parts of the country, rate from all parts of the country, and diat
the enterprise with a suitable board of directors and teachers would prove not only successful from a financial point of view, but would be a great blessing to the young men
who desire to become well qualified millers who desire to become well qualified millers
able to take charge of their father's or any body else's mill.

## SPONTANEOUS COMBUSTION.

During the year we often read of fires from causes unknown, or spontaneous combustion, wrapped in mystery that few care to underwrapped in mystery that few care to under-
take to fully investigate, with present premums, for such tedious and tiresome results; for when the mill or factory is reduced
ashes, it requires something more than imashes, it requires and theory to make them, Phoenix-like rise from their ashes, and again greet the ears with the noisy din which previously characterized their places, now silent, desolate, and smoky. In view of this, together with other
good reasons, we must base our argument on actual laboratory data and chemical research
while the buildings sta
clusions "after the fire"
Our readers will remember, perhaps to the
sorrow of some, the fearful loss by fire of mills in the West and Northwest a few years ago. At one time it appeared as though incendiarism and spontaneous combustion, one or both, was to obliterate these marks of an advanced stage of industry and civilization crease in number, and money sought investment in these industries long before the question was fully decided regarding the whys and wherefores of these fires; and at this day notwithstanding the fact that mill and fac tory fires continue to rage, this question re mains far from being solved. Insurance companies, in their efforts to protect themselves, often come across well-laid schemes to defraud them, but they are often defrauded as effectually by honest though ignorant per facts in connection with the care and manage ment of their business, and some morning the news is flashed across the country, "Burned from unknown causes."
Take, for instance, the grist-mill. All who have come in contact with it know that, floating all through the mill, are minut particles of dust. This dust is nothing more nor less than vegetable matter in the finest
state of subdivision, and the very instant state of subdivision, and the very instant
they float near a fire, unseen combustion ensues, so fine are these particles of grain or vegetable matter. Now, if we have a poorly ventilated building, and no current of air t move these particles about, they will congre gate about the warmer places, and will eventu ally take fire from the journals. We have seen
fire generated in sufficient quantity by a drivfire generated in sufficient quantity by a driving belt to make quite a respectable showing
f fire when the small particles of corn-husk of fire when the small pa
came in contact with it.
Again, if we chemically examine a kerne of any kind of grain or cerial, we shall find hidden about the germ variable quantities of highly-combustible gas-a gas that will take fire at a temperature slightly above the boiling point of water; hence, if we happen to be grindip grain in a poorly-ventilated building, the journals, belts, boxes, etc., all working together in generating heat, the gases being accumulated rapidly by the rollers or stones crushing the grain, the finely subdivided woody fiber floating in close proximity, is it any wonder that the be easily communicated to the fine dust, and finall the entire building be in flames? The great wonder is that these fires are so few. In addition to this, mill fires are the hardest to that in every nook and corner these gases and touchwood are present; hence, fuel of the best possible variety is constantly being added, and we are told the fire was beyond control when discovered, when it might have beyond control the instant it was started. Inasmuch as we have practically demonnasmuch as we have practicall strated that, with a condition of things as indicated in the foregoing, the entire buildindicated in the foregoing, the entire buildan instant, still the fire would not be subdued, for it must be remembered that these gases from grain, unlike many others, have not
the least affinity for water; hence, water he least affinity for water; hence, water
merely adds fuel to the flames by distributing fire among the tinder
In conclusion, we beg to state that, regarding other forms of spontaneous combustion (the foregoing is not), we are taught by chemistry that the elements of fire, if isolated, will not seek each other; then it is
really absurd to consider for a moment that oiled rags, old clothes covered with grease and the like, will catch on fire if left alone; such a thing can not be, as we will show
another time.-Miller and Manufacturer.

## nUtritive value of branny foods

 At a recent meeting of the College of Phythis of Philadelphia, a valuable paper on dolph and A. E. Rousel. The following are their conclusions:The experiments of Rubner leave no doubt that a white bread contains more assimilable wheat does, but this doesnot render it a desirable food-stuff for exclusive use. On thecontrary, a weaned butstill quite young omniverous mammal thrives better upon an exclusive diet of bran bread than on white, and, presumably because the earthy and alkaline salts are present in greater abundance in the former, and also because the indigestible constituents tend to give to the intestinal contents that bulk and consistency which are essential to the hygiene of the digestive tract. But, as has been shown by Edward Smith and others, the branny scales are needlessly irritating, and unduly hasten the food but partially digested. An observation worthy to be menioned in this connection is that of cubner woody fibre and harder cellulose in the intes-
tinal contents induces the passage of stools oods, the an excess of fats under the same conditions is not materially affected. The end which popular hygiene attempts to effect by the retention of bran in breadstuffs can be better attained by other means. Thus, the nutritive salts of food so frequently lost in restored by thods of the liquor in which meats and vegetables are cooked into a soupstock, as practiced inalmost every French kitchen. Again, the various fresh green vegtables used as salads yield in abundance these inorganic food-stuffs, the presence of which we have seen is indispensable to normal tissue activity. A further advantage of these and other succulent vegetables lies in the fact that their cellulose, while efficient in giving proper bulk and consistence to the stools, is as compared with bran scales, toft and unirritating to the digestive tract. From the facts, old and new, which have been presented, the following deductions appear to us ustifiable:
I. The carbohydrates of bran are digested y man to a slight degree
II. The nutritive salts of the wheat grain are contained chiefly in the bran, and therefore when bread is eaten to the exclusion of ther foods, the kinds of bread which contain these elements are the more valuable. When, however, as is usually the case, bread is used as an adjunct to other foods which contain the norganic nutritive elements, a white bread offers, weight for weight, more available food than does one containing bran.
III. That by far the major portion of the gluten of wheat exists in the central fourfifths of the grain, entirely independent of the cells of the fourth bran layer (the so-called "gluten cells"). Further, that the cells last named, even when thoroughly cooked, are litte if at all affected by the passage through the digestive tract of the healthy adult.
IV. That in an ordinary mixed diet the retention of bran in flour is false economy, as so quickens the peristion and absorptionent the complete digesids present in the branny food, but also of other food stuffs ingested at the same time.
. That, inasmuch as in the bran of wheat, as ordinarily roughly removed, there is adherent a noteworthy amount of the true gluten production of any process which in the simply the three cortical protective layers of the grain would yield a flour at once cheaper and more nutritious than that ordinarily used.
storage and shipment of grain.
Mr. Woodford Pilkington, a well-known English engineer, in addressing his colleagues recently made the following remarks in re gard to the American method of handling The
The extended cultivation of grain for ex port in the United States of America over vast regions of fertile territory has necessi ated the invention and employment of special machinery and buildings for its re-
ception, elevation, storage and delivery or ception, el
shipment.
As a case in point, the daily receipt and de ivery of about $20,000,000$ bushels of grain in one city alone, like Chicago, has called into operation a character of invention singularly adapted to the object in view, wherein the grain is treated pretty much as a fluid, and capable of being received and discharged in a similar manner. In this way the grain is pumped up and moved along in any direction, from the place of deposit or receipt to the point of delivery, through spouts, shoots and orifices, by means of drag-belting and other appliances, and in troughs termed conveyors the latter being sometimes used at distances varying from 200 to 300 feet from the main elevator building.
The impetus thus given to the grain trade in states having a large area of production has been of interest to this subject, as affecting the price of wheat and other cereals in the markets of the world. This paper however, deals only with those mechanica and constructive detairs needful to the operations set forth in the premises, and not with the harvesting and transportation of grain in its relation to agriculture.
The grain elevator may be aptly described as an oblong house, of varying dimensions and of from 70 to 80 feet in height from the ground line to the top of the cupola, divided vertically into bins.
The original method of storing in flats or floors, having been inadequate, gave rise to the self-delivering vertical bin system. These again, suggested the hoisting machinery for required height above the bin level; first, for receiving the grain into the garners which discharge into the weighing receivers, and the weighing eapacity of the receivers, hopperful by hopperful into the bins. These bin
ports, and are capable of holding about 5,000 bushels each.
The elevator building is constructed on a strength to support it when filled, and the machinery employed for the purpose. They allow the passage in of railway cars, there being generally two sets of ways entering into each elevator building. The supports
stand under the corners, and indicate the size and shape of each bin. The intermediate spaces are used for manipulating the binand shutting the bin valves
This mode of construction throws the weight of the building and its contents on the points of support, and hence the necessity of care being taken to have piles and piers of sufficient strength under the posts of a grain elevator. In other respects the construction, After the level of the bottom of the bin has been reached planks, 6 inches by 2 inches, are laid horizontally across each other, constituting cribwork, which is fastened down by 5 -inch spikes, and so bonded as to form laminated walls both for bins and house, dividing it vertically into square subdivisions. An upper story is constructed above the four central rows of bins to contain the "garners" and "receivers," for weighing and distributing the grain into the bins. The grain is elevated up one or more of these bin spaces by a belt and buckets in a tube called a "leg." This passes down below the entrance-floor into a receiving hopper termed a "boot" or sink, into which the railway cars discharge its garner and receiver governs a certain number of bins forming its section of the house, generally twelve in number, representing from 50,000 to 60,000 bushels, so that an elevator house with twenty legs of ordinary size would have a bin-capacity equal to $1,000,000$ or $1,250,000$ bushels. About 20 horse power is required for each leg, so that a
$1,000,000$-bushel house would need from 400 to 500 engine horse-power.

## milling industry and grain market in

## RUSSIA

The milling industry, at present, is principally devoted to filling the demand for home consumption, and consists almost entirely of grinding rye for the bread of the peasants, and the gruel, which plays so important a part in the sustenance of the Russian people. power, gines are used, by these, when not otherwise employed. There is thus a promising field for an improved milling industry in Russia, for the peasant would soon learn that he can
do better by selling his grain and buying do better by selling his grain and buying flour, than to have it ground in the toll mills, where generally
stolen from him.
Very little has been done, as yet, for ex portation of flour, but attention is being directed to this subject. There are already in Southern Russia well appointed mills working for the export trade, three in Odessa, one in Cherson, one in Nikolaiev, one in Sebastopol and one in Tagaurog. Lately good mills have been established in Samara, Saratov,
Kasan, Nizhnee, Novgorod and Moscow, furKasan, Nizhnee, Novgorod and Moscow, fur-
nishing excellent flour, which carried off the nishing excellent flour, which carried off the
prize at the Moscow exposition. This city is prize at the Moscow exposition. This city is
remarkably well situated for milling on a remarkably well situated for milling on
large scale, an industry that will undoubtedly be developed in time. The greater part of the product of these mills consists of such kinds of flour that find a market in Turkey,
Greece and Egypt. An important branch of their business is the manufacture of macaroni grits for the bakeries in South Russia and Italy. For this purpose the best quality of wheat is used, and in such mills hardly any flour is made, because the finest and most nourishing parts of the grain is needed for the macaroni grits.
From 1857 to 1860, the yearly export of flour amounted to 380,000 hectoliters, representing a value of $\$ 775,000$, while it now has grown to $1,200,000$ hectoliters annually, amounting to about $\$ 2,850,000$. Considerable quantities of grits and bran go
1,000 pounds flour,
353.2 go to Sweden and Norway.
304.0
-. Turkey.
$\begin{array}{ccc}304.0 & \text { " } & \text { Turkey. } \\ 163.1 & \text { " } & \text { England. }\end{array}$
$\begin{array}{lll}24.8 & \text { " } & \text { Austria. } \\ 18.9 & \text { " } & \text { Netherlands. }\end{array}$
Prussia.
Franc
Italy.
107.7

Other countries.
is evident, however, that a considerable amount of money is now being used for the benefit of the milling industry and the
high millers of neighboring countries, high millers of neighboring countries, such
as Hungary and Austria, are beginning to fear as invely a competition from this The means of transportation America. have been materially improved since the gen-
eral introduction of railroads. The country
consisting of an almost unbroken immense plain, is crossed by large navigable streams which facilitate the handling of grain, and well maintained. But transportation from the grain-growing districts to shipping facilities is very difficult and expensive, owing to their great distance from these shipping places and railroad stations and the lack of good roads. The principal river, the Volga, which is connected by canals with Oka, pian and Black Sea to the Baltic and Whit Sea. In addition to these, the Vistula and the Dnieper are large, navigable rivers.
The bulk of the transportation to the shipping stations along the rivers and railroads can only be accomplished during the winter snow. Then the frozen and covered with with his sleigh at low hire, and thousands of such sleighing parties are organized, for there is nothing else to do on the farm. At the in the open air to await the opening of navigation on the rivers in the spring. meantime large rafts are made, capable o carrying from 1,000 to 2,000 centnerweights of grain, according to the capacity of the river The great shipping on the rivers goes nort to the seaports on the Baltic. The transpor
tation of a cwt. of grain from Tsaritsin, in South Russia to St. Petersburg, a distanc of about 2,500 miles, costs $\$ 1.20$. On the Volga and its tributaries an enardly equaled by hat on any of the great rivers in this country. This movement of grain to the Baltic takes Khace from a territory extending north from Kharkov and Koorsk and east as far as distance from St. Petersburg to Odes remainder includes the territory tributary to Odessa, and the grain from this part of the third of the distance which the grain going north has to traverse.
At Odessa commences the Steppe, extend mouth of the Don, and having an average width of 95 miles. It is, however, not the dreary desert to-day, that it was only 50
years ago. Numerous settlements have been made and new settlers are daily pouring in for the purpose of raising grain, which in fail, is attended with excellent results
At the railroad stations, the grain is like wise stored in sacks in the open air; only a In winter the freight rates on the railroalt are generally double what they are in summer, since there is no competition with the iver shipping and the grain dealer is often make large shipments. Nevertheless, on the whole, the carrying charges on the Rus to the interest guaranty of the government, and the low wages for labor
On the railroads which anni
o the northern weaports centnerweights, a cwt. costs about $\frac{1}{2}$ mill per mile. The grain going south, 20 million cwts for transportation, but needs to he price only $\frac{t}{3}$ of the distance northward. The mill per mile at. and roads have been built solely for grain trans-

Notwithstanding the war of 1877, the rai oads did a splendid business on account great quantities of grain had to be carried north, as they could not be exported ove blockaded. The export from the Baltic therefore, during that year rose to 40,88 million centnerweights.
The territory exporting from Odessa, lies south of Kharkov and Kiev and comprise
Bessarabia, Kherson, share of Volhynian, Podolia, and a large ever, with the increase of railroads, ship ments are frequently made even from thi region to the Baltic ports. The transporta wagons drawn was formerly accomplished in wans drawn by oxen over the trackles are net andirely now these clumsy vehicles will load eight dacks of guch a wagon will load eight sacks of grain of about 650 miles a day. The good roads, travel about 10 the grain is carrie average distance which is 200 miles paid. Grain is, of course cents per ewt. is Odessa also by way course, transported to the ports on the Sea of Azever and from reater part is brought by land by far the oads or by wagon.
On the rivers there are over 600 steamboat
wo-thirds are in use on the Volga, and mostly employed for towing up the river the barges laden with grain. In Rybinsk, 330 miles from Petersburg, the great barges must be unloaded, which yet is done almost entirely by tantly employed in this unloading and re loading on smaller crafts, and the cost of handling a sack of 300 lbs . is on an average ents. A short time ago, the first elevato was built, which was considered as an im mense advance

Flour Mill Insurance in France. rench millers are apparently suffering quite gard to the insurance of their mills, and the mutual system, or association, seems to offe different classification of risks. The and inde la Meunerie says that from all time French millers have had to accept the terms of the insurance companies, and whatever improve taken of them, and no reduced premium fol ows their adoption. Quite recently the Syn greed to raise the already heavy premiums applying without the slightest discrimination the same exaggerated tariff to all mills, properly thinks that flour mills onsidered ordinary risks; butaclassification under which those adopting every precauesirable. Modern millers are daily perfect ing their machinery, and wood enters less and less into the construction of mills, whilst the rain is cleaner under conditions much les favorable for the creation of conflagrations remiums on nevertheless the reduction of ions deserve have not been forthcoming for the French miller, so it is not to be wondered to place their risks with English companies The Journal de la Meunerie remarks that it i alent in risks to eight pairs of stones, nor to if one pair of stones pay so much, two must
pay so much. Consequently French millers
nly mode of obtaining that revision of the
present tariff in France, which is so desirabl
and necessary.-Millers' Gazette, (Londom.)
Opening of Great grain Regions. Russia has resolved to develop her system of
railway communication on an enormous scale and for this purpose has just contracted oan of $\$ 75,000,000$, to be expended during the of railway penetrating the furthest provinces. Australia has also made long strides in the tine Confederation, in South America, which is building four additional trunk lines of rail road at
Buenos
he vast gramaries opening up in thert, with of the interior. In every case the ultimate purpose is to overcome all impediments in And, in spite of all this, says the Britisi rade Journal, American grain speculator ontinue their efforts to artificially maintain
the price of wheat, as though there were reat deficiency in the supply of the world come to them begging the privilege of bein allowed to purchase some of their surplus. A Fable for Free Traders.-A wo
espied a goat standing on a cliff quite out espied a goat standing on a cliff quite out of grew on the summit level.
here, my friend," said the
rary to the principles of economic sociology that you should get your living in such an ex lusive and uncommercial way. Besides, y where the grass is both more nutritious an more abundant.
Much obliged for your invitation," replied
e goat, "which, however, I will decline ith thanks. I am doing very well where I solicitous about your own dinner than mine.,
No carpenter in a city now thinks of luging only of soopound chest or tools, consist as many in the country did in former years in addition to the ordinary chest of tools which came into evreyday use. Nowadays work, comes from the mill in such shape that a couple of ordinary clever workmen, with only a shoulder box full of tools between them, will put it up more rapidly than the thoroughly trained carpenters of old times after making the fixtures by hand. The proportionate number of good carpenters is deoreasing from this, and the fact that when
branch of the business, he follows it in preference to any
able to do so.

## ITEMS OF INTEREST

The great importance of starch in the vital processes of plants and animals, as well as its interesting chemical behavior, has caused horough investigations of its properties to made from time to time. One of the atest analyses of wheat starch gives the following result: 24.143 per cent. water, 0.061 per cent. ashes, 1.1 per cent insoluble matter and 78.697 per cent. pure starch. Treating the starch with diluted acids changes it to
sugar, which is produced in greater volume sugar, which is produced in greater volume
than the original starch, so that, in making than the original starch, so that, in making
sugar of wheat starch, 100 parts pure starch sugar of wheat starch, 100 parts pure starch parts pure starch were obtained 180 parts grape sugar. A treatment of starch with diluted acetic acid results, after four hours. ir the of sugar, known as dextrine; but nued this dextrine is changed into grape ugar. These changes are of the greatest imortance in baking.
The 12th international grain and produce 36th of took place in Vienna on the 25th and 26th of August, in the rotunda of the palace the World's Exposition, in connection with a barley exposition, arranged by the society of Austrian malt manufacturers, and general congress of Austrian millers and mill owners. According to program, the sth was to be devoted to crop reports from all the grain producing countries in Europe, India and America, and the 26th to business proceedings.
Owing to the excessive rates charged by ill gitatingty, the mill owners of France are mutual insurance company among them

The officials of Arles in France, who are compelled to remain in the city, are in a sad count of the cholera, including the bakers and the butchers also having now followed dyeir examples, there is danger of the rest
drom lack of the necessaries of life The first export of flour from Michigan, of Monroe, shipped 200 barrels of flour to the

## OCTOBER CROP REPORT

Whingaton, Oct. 10.-The October rehan in the past five years, but not so high as in any of the remarkable corn years, from 93 , 1879 , inclusive. The general average cre on cres. The region between the Mississipp nd Rocky mountain slopes again presents he highest figures, which in every state rise little above the normal standard of the full condition. No state east of the Mississippi returns the condition as high as inia 73 , Ohio 74 , figures are, in West VirSouth Carolina 83. The reduction was caused by drought. There is complaint of drought in the Ohio valley, and inter-Atlantic and Gulf States, but not sufficiently severe to arly-planted corn is everys. The yield of Late plantings in the Southern States suf ered for want of summer rains, and will be light and not well filled. Very little injury Vermont Aug. 25, and in several borde tates about the middle of September, with slight injury to late corn. The damage by
chinch bugs and other insects has been slight.
The wheat crop will exceed that of last year by about $100,000,000$ bushels. Threshing firming the indications of former far conThe yield per acre will average about 13 ł The yield per acre will average about 13
bushels. The quality of the present wheat rop is generally very good, especially in the lope of the Alleghenies, Michigan, Wisconin of Mineghemies, Michigan, Wisconquality is noted in Indiana dllinuis in Missouri and Kansas. The average for the entire breadth is 96
The indicated yield of rye is about 12 bushis per acre. The quality is superior. The ielding about 27 bushels per the average, ing the crop approximating $570,000,000$ makels. The quality is good. The barley crop will make a yield of nearly 23 bushels per acre, and a product exceeding $50,000,000$ bushels of average quality. The condition of lightly under the average. Thiy under the average
The condition of the potato erop is repreber last year two points lower than in Octoand 1882, and the same as in 1880 - in 1879

United States Miller.
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MILWAUKEE, OCTOBER, 1884.
We respectfully request our readers when they write to persons or firms advertising in this paper,
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MILL FURNisherss Directory For 1884,
pubished by E. Harrison Cawker, of Milwaukee,
Wis., and sold for (si0.00) ten dollars per copy, is blished by E. Harrison Cawker, of Milwaukee,
is., and sold for $(\$ 10.000$ ten dollars per copy, is
wready for delivery. It thows the result of an
mense amount of labor, careful inquiry and studius attention
the most accurate trade directory ever published,
and will be of untold value to those desiring to reach
the milling industry of America. We glean from this neat volume of \& pages con-
taining no advertisements, that there are in the
United Stated of America and our neighboring DoUnited States of America and our neighboring Do
minion of Can ada 25,5 tlouring mills, taking them as minion of Can ada
they go great and small. The work indicates in about
10,000 instances the kind or kinds of power used by
the mills, and the capacity in barrels of flour per day the mills, and the capacity in barrels of flour per day
It further indicates cornmeal. buckwheat, rye-flour and rice mills. It shows that the number of mills in
the various states and territories of the United States the various states and territories of the United States
are as follows: Alabama 53 ; Arizona 17; Arkansas
43; California 222; Colorado 54; Connecticut 288; Da343; California 222; Colorado 54; Connecticut 288; Da-
kota 81; Delaware 98; District of Columbia 5 ; Florida
66; Georgia 631; Idaho 21; 1linois 1123; Indiana 1089; Indian Territory 14; Iowa 790; Kansas 489; Ken-
tucky 733; Louisiana 61; Maine 28; Maryland 353;
Massachusetts 340; Michigan 846; Minnesota 487; Massachusetts 340; Michigan 846; Minnesota 487 ;
Mississippi 388; Missouri 1025; Montana 21; Nebras-
Ka 25; Nevada 13; New Hampshire e 182 ; New Jersey
42; New Mexico 22; New York 1902; North Carolina 42; New Mexico 32; New York 1902; North Carolina
428; Ohio 1443; Oregon 145; Pennsylvania 3142; Rhode
Island 51; South Carolina 274; Tennessee 801; Texas Island 51; South Carolina 274; Tennessee 801; Texas
3; Utah 11; Vermont 247; Virginia 781; Washington
Territory 61; West Virginia 447; Wisconsin 777; In the Dominion of Canada we find the record as
follows: British Columbia 17; Manitoba 54; New Brunswick 198; Nova Scot ia 12; Ontario 116
Edward's Island 39; Quebec 531. Total 25,5 Taking the work throughout, and it is highly in
teresting to all concerned in the trade, and we take

## See Page 90.

A copy of Ropp's Calculator and the
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Assistant and Complete Mechanic" and a copy of the United States Miller for one
year will be sent to any address in America year will be sent to
for $\$ 2.75$. Order now.

The inevitable presidential election has come around again, and we trust that all of
our readers will vote. We make no suggesour readers will vote. We make no sugges-
tions as to who you should vote for, but be sure and go to the polls on election day and
vote for somebody. "Fools will walk where angels fear to tread," is an old and true proverb, and still
inventors of milling machinery will insist upon placing new inventions on the market. This is well. But how many enthusiastic ones
will come to grief, "Goodness only knows;" and few of the unsuccessful will "give them selves away.

There has been much discussion during the past five years, among many prominent
millers, whether the roller system in milling would ever give place to the disc system. W do not care to express an opinion; but we do work from disc mills, as ever was produced. It is, however, a question to be decided by experience whether the dise system is practical and economical.
Geo. T. Smith, of the G. T. Smith Middlings Purifier Co., paid us a visit during the
past month. We were so unfortunate as to past month. We were so unfortunate as to
be out of the city until a few hours before his be out of the city until a few hours before his
departure. It is rumored that his Centrifugal Reels have met with marked success in Milwaukee, against very strong opposition Our readers are probably more able to judge of the merits of Centrifugals than we are, but we certainly have heard some very
praises for Smith's, in Milwaukee.
The estimates on the wheat yield are, as
timates, or those of other parties paying special attention to the yield of wheat, may be Mithin twenty millions. The united statiction last May that the Milleer made a prediction last May that the wheat yield of this country for 1884 would be
at least $520,000,000$ bushels. From present at least $520,000,000$ bushels. From present
information we have no hesitation in saying that we believe the yield will exceed 550,000 ,that we belis
000 bushels
"The Great Empire City, or High and Low Life in New York," and the United States to any address on receipt of $\$ 1.00$

## OUR VISITORS.

Among the visitors calling at the United States Miller office, during the month of September, were the following:
C. B. Shove, Esq., of the Manufacturers
utual Insurance Co., of Minneapolis, Minn. Mutual Insurance Co., of Minneapolis, Minn.
P. G. Monroe and Samuel Monroe, of the Monroe and Samuel Monroe, of the
of Railway Appliances, of New York. W. H. George, Esq., of the Stilwell \& Bierce Ifg. Co., of Dayton, O.
Jno. Brining, Esc
Jno. Brining, Esq., of the Geo. T. Smith Mr iddings Purifier Co.
Mr. F. Printz, of the Milwaukee Dust Col

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money order or registered letter. Remittances money order or registered letter. Remittan
made otherwise will be at your own risk.

## the halteman failure.

The failure of I. Q. Halteman \& Co., millfurnishers, was announced last week, but did not occasion much surprise, it being pretty
generally understood for some time that the generally understood for some time that the
firm was in an embarrassed condition. The firm was in an embarrassed condition. The to transact a large business on a limited capital, bad debts, and inability to compete with firms having large capital. The assignment
was made to W. E. Fisse, Jr., assets placed was made to W. E. Fisse, Jr., assets placed
at $\$ 15,000$; liabilities not stated, but supposed o be sufficiently large as to preclude the es ate paying dollar for dollar
The late firm succeeded the firm of A. K.
Halteman \& Co., which did a large busines in fitting out mills and factories. In 1878, A K. Halteman \& Co. assigned, and I. Q. Halteman and George C. Goetting bought the as 000 , of which they paid $\$ 1,000$ in cash. This $\$ 1,000$ was the total capital of the two partners, but on it they built up quite a flourishon the high road to prosperity. As fast as they made any money, however, they invested
it in the business, thus leaving themselves almost wholly without cash capital. October 2, 1882, I. Q. Halteman bought out his partner for $\$ 6,000$ and has ever since continued by left his employment to start in business on their own account, and this crippled him considerably. Then he lacked the money necessary for the purchase of improved machinery, and laboring under these disadvantages he was forced finally to suspend.-St.Louis Miller.

Many serious delays often occur in mills and factories where belting is used by trusting the supervision of the belts to incompe-
tent persons. It should be the rule of every tent persons. It should be the rule of every
careful manufacturer to employ none but experienced machinists to manage the belts and to be entirely responsible for them. A competent man will not have a belt of greater length than is necessary; for, as is well
known, long belts sag heavily and cause so known, long belts sag heavily and cause so hard a drawing on triction on the bearings.
The motion, too, is unsteady, which will rapidly wear out the machinery and belts. In the selection of pulleys, it has been suggested that small ones should be used where consistent, since the belt adheres much better at quick speed than when large pulleys are used and the speed is lessened. It is not best to so place the pulleys that the belt hangs horizontally, but when it is necessary to do so, the belt must be kept tightened or a constant
the work. Where endless belts are not used the motion should run with the lap. It is pulley, as the belt is better protected and less liable to crack, besides furnishing a smoother surface to the pulley and being less liable to slip. An experienced machinist says that he It excludes castor oil to make the belt hold It excludes the air from between the belt and
the pulleybetter than animal oils, and although the pulleybetter than animal oils,and although
it is more expensive, he has found that it preit is more expensive, he has found ther oil and
serves the belt longer than any othe keeps
Iron.

## AN INVENTOR'S HARD LIFE

Mr. Daniel Drawbaugh, who claims to be the original inventor of the telephone, was in the court room of the United States Cir efore Judge Wallace, in the great suit of the American Bell Telephone Company against the People's Telephone Company.
Mr. Drawbaugh is of small stature, with a bald head, a ruddy face, aquiline nose, wears a moustache that is nearly gray, and has a quick, nervous, restless manner. He moved counsel, detailed the history of this inventor which, like that of many men of his class, is battle for fortune.
In the speech of Mr. Hill the following acts in reference to Mr. Drawbaugh's life were brought out: He was born in 1827, in Cumberland County, Pa. He attended schoo a part of five winters, up to the time he was sixteen years old. When about twelve years of age he made a clock and an automatic machine for sawing wagon felloes, and coninued throughout his life to manifest
 transmitting articulate speeched the ide hrough a telegraph wire speech electricall hrough a telegraph wire, and he started to make a machine through which, it is alleged of twenty miles. This was done by the use of what is known as the "carbon telephone," which is constructed on the same principle as the Bakel transmitter. Some of these in struments, counsel said, were made as early as 1867. Prior to the war Drawbaugh invented a machine that was largely used for agricul tural purposes in the South, and when the war broke out he had a large amount of
money owing to him that he was not able to ollect. He was therefore obliged to go int bankruptcy.
From 1869
From 1869 to 1880 he was in extreme poverty with a large family, and his only source of ncome was payment for the doing of odd mechanical work in the houses and on the
farms of his neighbors. The latter said of farms of his neighbors. The latter said of
him that his hobby was electricity and that he was a man of great inventive genius, but it was frequently very hard work for him
borrow a dollar from any one of them.

## the flour and grain interests of penn SYLVANIA.

The increase in the wheat market in the vis le supply is less than 400,000 bus., and th is more than offset by a decrease of $2,400,000$ bus. in the amount of wheat on passage from all parts of the world to Great Britain and at interinent. The receipts of winter wheat time of year, and the movement of spring wheat thus far has disappointed expectations. The general tenor of reports from the country particularly from the wheat growing districts
slvania-Lancaster, York, Dauphin, Lebanon, Berks, Bucks, Lehigh, Northampton, Montour, Snyder, Centre, Union, Lycomng, Clinton, Crawford, Washington and West moreland Counties, indicates an unwillingness to sell at ruling prices, and in many sections plump bids of higher figures than have been obtainable in the eastern markets, have been refused. The National Bureau report indicating a yield of $500,000,000$ bus, has been risappoin ment to many who had confidently anticipated a larger estimate. All these fea lures of the situation have pointed to $h$ fearather than to lower prices but as the actual course of the market attests, they have been powerless against the general lack of speculative support and the continued apathy of foreign buyers. The clearances from Atlantic ports have aggregated in the neighborhood of $200,000,000$ bus.; but these shipments have been largely in execution of contracts made several weeks ago, a good many of which are still unfilled, and will maintain a liberal outward movement for the balance of this month. New business has been extreme ly difficult to accomplish in the face of weak and declining markets at home and abroad and the steady depreciation of values has caused a general pressure to realize on the part of the disgusted "longs," who have been holding on for weeks past in the hope tha something would turn up to give an upwar
ow prices confidence is still at low ebb, and peculation is largely confined to the regular habitues of the exchanges. The corninarkets in old crop options has been mostly squeezed out by crop options has been mostly squeezed at by the recent advance, and prices have agged off on the near deliveries $3 \frac{1}{2}$ to 4 cents in New Y ork. The splendid crop prospect has caused free selling of late months in all markets, but speculators hesitate to put out contracts for October in the eastern markets or for delivery this side of December, on the seaboard, owing to the meagre stocks and the ear of another squeeze by the engineers of the ate bull movement. These parties still conrol the bulk of the supply of the contract rade, and the break in prices within a short me is regarded by many operators simply as at a stand-still, owing to the relative cheapa stand-still, owing
The flour manufacturing industry is in a remarkably prosperous condition. The exensive steam roller mill of Nathan Sellers, t Sixty-fifth and Market streets, Philadelphia, has been completed, and is in first-class unning order. The production of the celebated grades of Milbourne and Rosa Belle lour weekly is very large and has already ecured a heavy sale not only in Pennsylvania, but good shipments are regularly made to foreign ports, the flour being caried from Philadelphia to Liverpool by the steamers of the American line. Elsewhere in the Keystone State, as has been earned in interviews with prominent members of the Pennsylvania State Millers' Asso-
iation, the producing interests are generally ciation, the producing interests are generally in a reasonably fair and satisfactory condi-
ion, while profits appear to be about right. In the central portion of the State much enterprise is being displayed by millers who ave hitherto used the most crude methods of making the staft of life. At Watsontown, Northumberland County, the well and favorably known firm of R. M. Griffey \& Co., proprietors of the old established "White Deer Mill," have greatly improved their old mill. Besides this change the firm intends to build nachinerycture and will put in the entire opularity of their products has been discovered by the consumers in central Pennsylvania o such an extent that it has become impossible to supply the demand without increasing the capacity. With characteristic enterprise Griffey \& Co. ordered the purchase of the necessary appurtenances, and machinists are now at work putting in the new machinery, which came from the works of a celebrated western flour milling machine firm. Over $\$ 5,000$ worth of machinery has been contracted for, and it is exime early this fall. The success of the "White Deer Mills" is very gratifying to the proprietors, and proves conclusively the efficiency of the head miller, R. M. Musser, who certainly understands thoroughly the art of making first-class flour.

## FLOUR GRADING.

As time moves on we hear more about the grading of flour to uniform standards, and we will say right here and before time moves any farther, that we don't like the idea. The scheme will be worked, or rather attempted, by the dealers of the arger markets. Their argument will be something like this: "If we can establish various grades we are not tied to particular mills or particular millers. All we have to do is to educate the millers to these standards, then when we want to buy we can bring about a competition through the mills upon an intelligent basis. If we want 'Choice' we will not have to telegraph for quotations on one man's 'Snow King,' and another's 'White Lily,' and somebody else's ' Best,' but we merely ask for figures on 'Choice.' Thus we have a uniform basis for a spirited com petition, and the shortest pole knocks the drawnmons. This picture is a littie over truth in it. The best system of grading and inspection we have in this country is in St Louis, and as we see it, it is about as good as can be, and at the same time it does not serve any such purpose as our imaginary broker would wish. It is all right on low grades but even here mention is made of good supers, and all of that, and within the margins em braced by this grade we frequently hear of a disturbance. This being so with low grades disturbance. This being so with low grades, There is something more than a mere matter of grade to flour; there are subtle qualitie which cannot be uniformly judged, as they which cannot be uniformly judged, as they
cannot be described. Such qualities are of value to the baker. Flour may be graded as to color, and approximately as to strength but when it comes to the nicer distrength which can only be appreciated by the user, which can only be appreciated by the user cated. The lines of distinction are too fine. They are like distinctions in character-a litThey are like distinctions in chara
tle is a great deal.-Modern Miller.

## THE UNITED STATES MILLER

Mr. Rawson is at present, at the age of
nearly 72, stopping at his son-in-law's resinearly 72, stopping at his son-in-law's resi-
dence, in Milwaukee, and expects, in the near dence, in Milwaukee, and expects, in the near
future to go to his son's home; and has hopes that he will be able to set types and write for the public to read, for some years to come He makes little use of glasses-and needs
them only when reading small print and work ing with small type-(nonpareil and smaller)

NO. 2 RED WHEAT AT NEW YORK.
The New York Produce Exchange did a good day's work last week when they re-estab lished the grade No. 2 red winter wheat on
a higher level. The result is the outcome o higher level. The result is the outcome o and the exchange is between two factions, the victory is on the side of sound wheat The specification of what No. 2 red wheat (contract delivery grade) should consist of included "dry, sound and reasonably clean" wheat, but was rendered of no account by the existence and toleration of guides for in of the grade." These samples were supposed that could be allowed to pass of whea and included so much dirt, a little buck wheat, a little barley, some long and some mixture of a good deal else than wheat. These samples were sent all through the west to the larger shipping points where it soon became the practice to grade the good wheat ples before sending the grain forward. This "science"--that of grain-mixing-has proved a very profitable employment, and a good and at New York, have made a great deal of money by judiciously mixing a boat-load o loads of excellent grain, and thus making the whole marketable as No. 2 red, because sample of "the bottom of the grade." This was, of course, nothing more nor less than
adulteration of grain. Its practice, while open to condemnation, has not reflected otherwise on those who practiced it because it was done openly and aboveboard. The very rules of the exchange encouraged it by the establishment of the type-sample of "the of the continued indulgence in sales of and speculation in adulterated grain have been met with. Foreign buyers of American "New York inspection" and have demanded St. Louis, Toledo, Baltimore or New Orleans inspection instead.
This has reflected on New York's export trade in that cereal and suggested the phrase "New York's gamblers in rotten grain," in which there has been so much truth as to compel admission of the charge by the friends
"the bottom of the grade" method of inthat the. On this point it may be explained grain when the grading takes place are likely, after long storage, to cause the wheat to heat quicker, and thus create unsoundness. In January last it is charged that $1,500,000$ bushels posted here as unsound became so through this evil of adulteration. By the
action taken, after hearing majority and minority reports from the grain committee and the joint advisory committee appointed to consider the re-establishment of the grade that No. 2 red winter shall conform to the following description:
sound, dry and reasonably clean, weighing not less than $58 \frac{1}{2}$ pounds, Winchester standof white wheat." The weight gauge was added to the old nominal type of $\mathrm{No}_{4} 2$ red by this, but the master stroke consisted in
the abolition of the type-sample "heretofore the abolition of the type-sample "heretofore known as the the bottom of the grade. "
This action was materially assisted, This action was materially assisted,
course, by the much better quality of the course, by the much better quality of the crop,of wheat grown in 1884 than that of the previous year and by the very small stocks
of the latter remaining in store here. To no of the latter remaining in store here. Co no others is more credit due for the important
change made than to Messrs. H. T. Kneeland change made than to Messrs. H. T. Kneeland,
Bingham Brothers and Power, Son \& Co. The minority party, or those who upheld and still claim an advantage in the employ ment of the "bottom of the grade sample," appear to base their view on the evident superiority of an absolute sample against which or toward which grading can be made. As now arranged, they allege that the tandard is capable of varions constructions, and the use of absolute standards and weights by the ancients is cited as precedent. Whethe largest firms admitted or not, one of the largest firms of grain receivers, known as
mixers, grants that the type-sample of the bottom of the grade" has been too low. T the layman in such matters a "bottom of the grade" sample on which to sell, as against
clean grain purchased, is in itself open to clean grain purchased, is in itself open to
question on the ground of commercial moral$\mid$ ques. It needs no argument to prove that it $\mid$
sets a premium on furnishing an inferio
compound. But the better sense of the compound. But the better sense of the ex
change has asserted itself, and there reason to believe that the New York standar No. 2 red wheat will hereafter be sought in ead of avoided in the markets of the world Bradstreet's, Sept. 6
true romance of a wisconsin miller. Wisconsin miller, located at no great distance from Madison, has recently ended a rather romantic life, many particulars of Which have been given to us by a friend.
Many years ago, when the gold fever was at its height in the Golden State, California, he went thither, a bachelor. He met with fair
luck financially, and after a few years'sojourn ell in love with a 'Frisco lady and soon after son ander. The result of the marriage was son and a daughter. After a time the miller nding his domestic relations very unpleas roes, and after considerable wandering finally ocated in a Wisconsin village. After estabwhing himself in business, he married a very worthy lady and prospered. By his second
wife he also had a son and daughter. His aughter is now grown to be a very handsome and intelligent lady. One day not long since nd among her father's letters noted one from writing. She said nothing, but delivered the tter to her father. Her curiosity was excited and having occasion to brush her father's now opened, and could not resist the temptation of reading it. The contents tended to
show conclusively that the lady who had ritten it was the first wife of her father, and mother, impelled her to go to her father and ll him what she had learned.
He admitted that it was true and implored her not to mention it, and told her that he had
been making arrangements to have everything made right and satisfactory soon. She agreed to keep quiet.
er shot himself. Shortly afterwards his mil with a few things packed in it, was found hid had, in the first place and it is supposed tha is now said that the California wife is on her way to Wisconsin to claim the fair estate that

## DRINKING CEREMONIES

The custom of touching glasses prior to drinking healths is very common in this and
manny other countries, many. It is curious to trace how this custom has prevailed and still exists, even amongst and eat off the same plate was one of the ways in which the ancients celebrated marnot the least important of the maries to be monies to this day. The Indians of Brazil retain a custom of drinking together a little brandy, as a sign that the marriage
cluded. In China similar customs a
with. In the mediæval banquets of Germany was the custom to pass a "loving cup" from that the cup should be of enormous size, and thus smaller cups or glasses were adopted, and the old custom was conformed to by the
drinkers touching their glasses before drinkand drinking out of the loving cup, as prac-
ollege halls, is said to have arisen
from the assassination of King Edward. It
was then the custom among the Anglo-Saxons to pass around a large cup, from which each guest drank; he who thus drank stood up body was exposed without boy defands, his blow, and the occasion was often seized by a enemy to murder him. To prevent this the following plan was adopted: When one the companion who to drak, he required his pledge-that is, to be responsible for pro tecting him against anybody who should atposition thise advantage of his defenseles raised his drawn sword in his hand to defen the drinker while drinking. This practice, in somewhat altered form, continued long after he condition of society had ceased to require of pledging in drinking. In drinking from the "loving cup" as now practiced, each per son rises and takes the cup in his hand to drink, and at the same time the person seated takes the cup in his turn, the individual next him does the same.-Brewers' Guardian,
[Written for The United States Miller.]
THE MILLING interests of the south."
Throughout the South there has been of
tion of wheat. This increase is going on steadily, so that even the cotton states are far from being dependent on that staple as a observer that the condition of the South is improving rapidly, much more so than any other portion, at the present time. The
large and increasing investmentsin industrial enterprises, and the activity in railroad construction, demonstrates that the Southern States are making giant strides to prosperity, and importance. It is apparent, that in the
South from the favorable condition everySouth from the favorable condition every-
where seen, there is where seen, there is the opportunity for an
industrial growth more rapid, sound, and permanent than exists at present in sections The milling interests of the South (in speaking of the South I refer to that portion
south of the Ohio and east of the Mississippi) until very recently were of small proportions, ompared with the prominence it occupies to-day. It was more or less crippled by the adopt new systems, the demand was supplied from the North and West. The Southern Millers, however soon awakened to the fact, and began to place their mills in a position
that would enable them to compete with their brethren in the North. Prior to the year 1880, there was not what could be called
a roller mill in the South. About that time a roller mill in the South. About that time first advocate of new school milling in the roller mill. The era of improvement began from the successful starting of this magnifiville alone sare, untit to-day the city of Nashthe most complete and successful mills in the w
Incidentally I may say, too much credit first to take a decided stand in that section, as an advocate of new school milling. His most intimate friends contended it could not be accomplished; however he proceeded to
carry out ideas formed only after careful study and investigation. He can now point
with pride to the results of opinions which with pride to the results of opinions which
he held at that time. The effect produced by the mill referred to above acted as an incenive, and at the present time, there throughout the Southern Staipped mills which yearly additions are being ma and of the great drawbacks to Southern millers being rapidly overcome. The yield this years, which is legitimate. Producers realize and feel the demand which is growing and will naturally respond to it, and I see no reason why millers of the South should not They the entire territory south of the Ohio They need not stop here, their facilities for
exporting if not at the present time, soon will be equal if not superior to those possessed by Western millers. The tlour markets of the by and sil a short time ago were controlle was regarded as very valuable, This well it might be, right at home, accessable by water and rail; good prices were always obtained; his, however, is now changed, being supplied
thome with a product which bes no When we consider how quickly millers of he South responded to the public demand
or a superior article of flour hanges necessary to accomplish it it woul seem that a new spirit of enterprise had sized them. If we look at the State of Kenears ago, and should pass through it now, would see roller mills on every hand, turnnd controlled by a class of men who are determined to keep abreast of the times. This nd although the inneapolis there is its stead great deposits of coal with which o generate power, which, although artificial, sow considered preferable. It is admitted han tro millers have progressed more slowly as been solid, and I feel safe in stating the milling interests of the South are healthier o-day than those of the West. In other inastries also the progress has been little less ourse, aractical monely enjoy, of oon of American cotton, and it would be ranch of agriculture. But the flour mills of the South, principally in Kentucky, Teupid strides and the Carolinas, have made Ne North and Ward equality with those of the attention given the Southern States in the past two or three years will not lead to the generation of a speculative rush of the kind whose inevitable end is a financial collapse. Should it not do so we may look forward to the South with the assurance that it will make great and lasting progress within the next few years.

## WE ARE ON THE MARKET

* WVITII THE


## Best Middlings Purifier and Rolls MADE IN THE WORLD TO-DAY.

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# THE CASE MANUFACTURING CO, COLUMBUS, OHIO. 

technical vocabulary of the principal terms and words in milling.
With equivalent words in English, French, German, Spanish and Italian.


## BUILDING 100 FREIGHT CARS IN NINE HOURS.

This altogether unparalleled feat was performed in the freight car shops of man, Ill., on August 18th. The cars were flats, and formed part of an order for the Vicksburg, Shreveport \& l'acific Railway Company, which desired to have them deivered as soon as possible. The task was accomplished without any special extra preparation. The work was "laid out" as usual n Saturday, that is, five sets of wheels and xles were placed on each of the seven tracks used in the work, and the materials for each of the cars were placed along the tracks in the usual manner. When the whistle sounded at 7 A. . . the men sprang to their work. Of isted of four gangs, twenty-eight conwas one hand short, because of sickness, The three men preferred to do the work themselves rather than take on a fourth hand. The first completed car was turned at $9: 15 \mathrm{~A} . \mathrm{m}$., and the first lot of twelve completed cars was pulled out of the shop at 10:40 A. M. The hearty interest felt by all the men in this splendid contest was shown by the cheers which rang along the lines when this first finished lot began to move out of the shop. The writer reached the scene t about 4 P. M. and found the floors being aid on the last two or three of the 100 cars. t is within bounds to say that the whol umber was finished by 5 P . M., and by 6 P r. twenty-four of them were lettered and ady to ship. -Railesay Age.

The report on the comparative experiments in different milling systems, lately under taken by the Syndicate of Grain and Flour in Paris, with the cooperation of the French Minister of Agriculture, has been presented o the National Agricultural Society
The volume includes the reports of M . Grandvoinnet on the proceedings and results of thase experiments; of M. Aimé Girard on the chemical and microscopical analyses of the principal milling products; of M. Lucas on the experiences of panification; of M . Prager on the classification of brans; of $M$ Guilier on the classification of brown an an essay of M. Gatellier on his personal experiences in experimenting on the possibility of increasing the richness of wheat in gluten.
M. Gatelier thinks that, with a proper sy
it is practicable to increase the percentage of gluten in wheat kernels, and effectually solve the question which inevitably will arise between milling and agriculture, as it has already arisen between sugar refineries and agriculture, in relation to the relative richness of beets in sugar.
M. Gatellier finally gives some details of voyage, which a committee of the Agricultural Society of Meaux, of which he is president, has just made in Germany and AustriaHungary. The committee found there a more Gatellier agriculture than in France, and M y due to the development of professional instruction. He adds that the variety of wheat known as Shirriff's square-head is cultivated on a large scale and gives a very large yield, but believes, nevertheless, that there is an ofset this wheat.
On this question. M. Tiserand relates practice adopted by M. Raimond, a farmer in the neighborhood of Nemours, who sows a mixture of three kinds of wheat-blue, Bordeaux and Chiddam, and by this means ob tains a much larger yield than by sowing each offers a useful hint for farmers, as the fact is analagous to that observed in cultivating meslin.

OIL MADE OF GRAPE StONES.
Grape stones are a kind of seed, which has nothing in common with wheat, rye or eve oats. Nevertheless, it may interest our readers to know that they are largely used in Italy for extracting the oil which they contain. This oil serves principally for lighting purposes,
and Modena is the center of this industry. and Modena is the center of this industry.
The stones contain about 18 per cent. of their The stones contain about 18 per cent. of their
weight of oil. It varies, however, in differweight of oil. It varies, however, in differ-
ent kinds of grapes, and stones of white grapes contain less than other kinds. The color of this oil is a golden yellow. About 5 per cent. is lost in refining
There is no reason why this industry should not be introduced in the grape-growing disthe manufacture of the cotton-seed oil.

## steel casks.

A Wolverhampton firm has turned its attention to the manufacture of casks and barrels of steel. The two edges of the sheet gether in such a manner as to justify the title of "seamless," which the patentees have
the barrel is also riveted to the body, so as to leave no seam, and the end rims are shrunk on hot, thus making a very solid end, while, at the same time, the rims are thick enough to give a good purchase to the grappling hooks and hoists and cranes, for loading and unloading purposes. The bush for the tap does not project beyond the rim, so that the nozzle is not liable to be knocked about and injured. The casks are more durable than wood, less bulky and lighteran 18 -gallon steel cask weighing some 10 pounds less-a not unimportant consideration as regards transit. In point of shape, a steel barrel is exactly that of a well-formed wooden one, the bulge of the belly allowing of it by one man than drums can be by two

## GI'ME A CITY DIRECTORY"

A party of mill-furnishing commercial tour ists happened to meet in the city of Indianapolis, and soon a number of local milling celeb-
rities joined them. After various meandering about the city, during which meanderings of chame city, during which various brands of champagne and Kentucky "mountain dew were sampled, the jovial party brought up at walked up to the clerk and said the party walked up to the clerk and said

Wi'me a city directory
irectory at this time onight", a city directory at this time o'night?" asked the clerk.

Why, dang it," said he, "I want-to-find "out-where-I-live." right" replied the clerk, "tell me your name and I'll find it for you.
"My name is Dan, By Jinks! Everybody
nows me," he said, "Certainly" haid.
"Certainly" replied B -g , one of his
riends, stepping up, "look for friends, stepping up, "look for Dan -_."
T.te address was soon found, and after a "night-cap" Dan went home supremely happy.

## HOW TO CURE MUSTINESS IN GRAIN

Not unfrequently stored grain emits a damp or musty odor, the reason of which, in all cases is a surplus of dampness, and a lack of proper ventilation. If the odor is barely perceptible, it is generally sufficient to shovel over the grain at short intervals, making only low heaps and admitting as strong a draught as possible in the store room. But if there is an intense odor, showing that the deterioration of the seed substance has made considerable progress, it is more difficult to clean the grain, and it requires more energetic means A process, which often is attended with sucdered charcoal. Take finely powdered and sifted charcoal in the proportion of $\frac{1}{2}$ per cent ( $\frac{1}{2}$ bushel of charcoal to 100 bushels of grain), and mix it thoroughly with the grain and as uniformly as possible, and leave it about four weeks before cleaning. If necessary, this procedure must be repeated.
preparation of essence of vanilla from OATS.
A short time ago it was announced that the researches of M. Sanson had led to the dis covery and separation of aveine, the active principle in oats, in which he recognized an odor of vanilla. This perfume in a grain of oats was known to and mentioned by Val History, and it was employed by some cooks to impart to their preparations the odor and taste of vanilla, which is in reality quite noiceable in the oats, and more abundant in lack than white oats
Now, M. Journet, another French chemist by his own experiments, has satisfied himself that it is only in the shell of the grain occur in the meal. fact as follows:
fact as follow
Oats contain in its shell an aromatic principle analagous to that of vanilla, which may be extracted with water and afterwards alcohol.

This extract may be used for the various preparations where vanilla is employed
merely as flavoring, such as liquors, ice-cream, merely as flavoring, such as liquors, ice-cream, caramels, ete

## NONSENSE.

IF at first you don't succeed, try again. one tailor won't trust you, try another
IT is still a question of considerable doubt which a woman can do best-drive a hen or talk politics.
The Boston Traveller says that nickel is he coming metal. Everybody that has any ents knows that it has come already.-New Bedford Standard.
A woman of Greenwod, Me., is reported There's cutting her fourth set of teeth. ing her fifth set from Philadelphia.
"In what condition was the patriarch Job at the end of his life?" asked a Sunday school teacher of a quiet-looking boy at the foot of the class. "Dead," calmly replied the boy.

A BACHELOR, upon reading that "two lovers will sit up all night with one chair in the room, said it could not be done unless is painful.

A shrewd old lady cautioned her married daughter against worrying her husband too much, and concluded by saying: "My child man is like an egg. Kept in hot water hittle while, he may boil soft; but keep him there too long, and he hardens
A writer in the East says of a camel: "It travels at a slow, lounging pace, beyond which it is dangerous, with nine camels out they 'lo urge them, or else, as Asiatics say the spot," Their hearts' and die 'literally' on the spot." The district messenger boy seems
"IF," said an Austin school-teacher, "you go to a butcher shop and pay 10 cents a pound for meat, how many pounds." Up went the hand of a new boy from the country. "What is it, Johnny?" "When we want meat we don't go to a butcher's shop. Pa goes out on the prairie and kills a maverick."-Texas
Siftings. Siftings.
John what is the best thing to feed a parrot on ?" asked an elderly lady of her bachelor brother, who hated parrots. "Ar ric. gruftly answered John.
An Irishman who had a pig in his posses sion was observed to adopt the constant practice of filling it to repletion one day and starving it the next. On being asked his reason for doing so, he replied: "Och, sure and isn't it that I like to have bacon with a strake o, fat and a strake o' lane aqually, one

In Arkansas the law forbids the erection of a saloon within five hundred yards of a school-house. This is a wise law. It was very annoying for the children to have to go to the saloon
their lessons.
"It is very sad." said a Scotchman, "it is very sad, indeed, to think on the number of the world's greatest men who have lately been called to their last account. And the fact is," added he, with unction, "I don't feel well myself.
A Far-Sighted Official.-Bank Presi
dent-"My dear, I am not only the I suppose you know that I the owner of most of the stock "'

Daughter-"Yes, pa.
'And if I am not mistaken you are becom ing rather fond of Mr. Lightfinger, my cash-

## Yes, pa; I confess it is true. But how do

Thave eyes. But why have you tried so hard to conceal this from me :
"O, pa, please forgive me; but I knew that and, oect to my marriage with a poor man and, dreading your terrible anger, I have deed, indeed I have!?

Conquer them? Great St. Bullion! I want you to marry him as soon as possible?" 'O, you dear, darling old pa. But what has wrought this strange metamorphosis
O, nothing; only I thought it would be family.
No Irishman ever uttered a better bull than did an honest John, who, being asked by a friend: "Has your sister got a son or daughter "" replied: "Upon my word I don't know whether I am an uncle or an aunt."
His In vestment Imperiled.-"Why don't you go to work ?" a gentleman asked a very "agged tramp.
I am anxious and willing to work," replied the bummer, "but what's the use of it until they settle the tariff question

What has the tariff to do with it ?"
A great deal. Suppose I went to work and accumulated a small capital by industry and economy.
"Well ?"

Well ?
Well, its natural I'd want to go in business for myself-manufacturing, probably; but I d be afraid to put my money into any thing until the tariff is settled. It certainly is a great hinderance and drawback, but my safest policy is to wait.
Strictly orthodox Israelities make it a point never to eat sausages when anybody is looking. Mose Schaumburg went into a restaurant with his little son Jacob, and thinking him too small to observe what was going on, ate a regular pork sausage. He
was somewhat startled to hear Jacob say:

## Fodder, I oants a sausage

You don't get no sausage, Schacob." Den I tells everybody dot
"uou eat a pork sausage,
Just to humor him, Mose ordered a spiusag or the little rasca,. Mose thought he had sausage was out of sight, little sova as
"Now, I tells people dot you eat two por
usam, Dey vas good, don't it, folder

## 1876--NINTH YEAR OF PUBLICATION-1884.

Tow is the Gime to Subscribe UNITED $:$ STATES $:$ MILLER<br>Every Mill Owner, Miller, Millwriş̧t, Mechannic and Enşineer<br>Should be a regular subscriber to this valuable Journal which was established May 1, 1876. It is a complete record of all industrial events of interest to the above named CLASSES OF THE INDUSTRIAL PUBLIC. Tnis Journal is issued<br>monthly and the subscription price has always been<br><br>Desiring to add a great number of names to our regular subscription list this year, we have made arrangoments with other publishers so that we can, for a short time, afford to offer you the following

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## bread making.

In a series of papers written for Knowledge by the celebrated English chemist, Professo sive title of "Chemistry of Cookery"" treats the "bread making" as follows:
Let us first note the effect of cooking on gluten. The action of hot water is to effect a partial solution, that is, it effects a loosen ing of the bonds of solidity, but not going so far as to render it completely fluid. It appears to be a sort of hydration, similar to that which is effected by hot water on starch,
ibut less decided. To illustrate this, wash ibut less decided. To illustrate this, wash the gluten from the flour with the aid of cold in making ordinary bill sticker's paste, and wash this also in cold water. The gluten
will come out with difficulty, and when will come out with difficulty, and when separated will be softer and less tenacious than that obtained from the raw specimen.
This difference remains until some of the This difference remains until some of the
water it contains is driven out. The importance of this in the cookery of grain food is very great, as anyone who aspires to the honor of becoming a martyr to science may prove by simply making a meal on raw wheat, masticating the grains until reduced to small pills of gluten, and then swallowing these.
Mild indigestion or acute spasms will follow Mild indigestion or acute spasms will follow,
according to the quantity taken and the according to the quantity taken and the
digestive energy of the experimenter. Raw digestive energy of the experimenter. Raw
flour will act similarly but less decidedly. Bread-making is the most important, a well as a typical example of the cookery o grain food. The grinding of the grain is the
first process of such cookery; it vastly in first process of such cookery; it vastly in-
creases the area exposed to the subsequent creases the area exposed to the subsequent
actions. The next stage is that of surrounding each grain of the flour with a thin film of water. This is done in making the dough by careful admixture of a modicum of wate and kneading in order to squeeze the water
well between all the particles. The effect of well between all the particles. The effect of
insufficiently enveloping in water is sometimes seen in a loaf containing a white powdery kernel of unmixed flour. If nothing more than this were done, and such simple dough were baked, the starch granules would
be duly broken up and hydrated, the gluten be duly broken up and hydrated, the gluten
also hydrated; but, at the same time, the also hydrated; but, at the same time, the
particles of flour would be so cemented to particles of flour would be so cemented to-
gether, as to form a mass so hard and tough when baked, that no ordinary human teeth could crush it. Among all our modern
triumphs of applied science, none can be triumphs of applied science, none can be
named that is more refined and elegant than the old device by which this difficulty is overcome in the every-day business of making certainly very far anterior to any knowledge of the chemical principles involved in its

## application.

The problem has a very different aspect. Here are millions of particles, each of which has to be moistened on its surface, but each adhesive, and therefore sticks fast to all its surrounding neighbors. We require, without suppressing this adhesiveness, to interpose barrier that shall sunder these millions of particles from each other so delicately, neither to separate them completely, evident that in the operation that supplie each particle with a partial atmosphere of gaseous matter, the difficult and the delicat problem will be effectually solved. This done in making bread
The seed which is broken up into tlour con tains diastase as well as starch, and this dias-
tase, when aided by moisture and moderate warmth, converts the starch into dextrine and sugar. This action commences when the dough is made, and this alone would only
increase the adhesiveness of the increase no further; but the sugar the mass, if it may, by the aid; of a suitable ferment, be converted into alcohol. As the composition of alcohol corresponds to that of sugar, minus carbonic acid, the evolution of carbonic acid gas is an essential part of this conversion.
With these facts before application in bread making is easily understood. To the water with which the flour is to be moistened some yeast is added, and the yeast-cells, which are very much smaller than the grains of flour, are diffused throughout the water. The flour is moistened with this liquid, which only demands a temperature of 72 deg. Fahr. to act with considerable touches. Instead then, of the passive, lumpy, tenacious dough produced by mois"sponge," as the baker calls it, is produced which "rises," or grows in bulk by the evolution and interposition of millions of invisibly small bubbles of gas. This sponge is mixed with more flour and water, and kneaded again to effect a complete and equal diffusion of the gas bubbles, and finally the porous mass of dough is placed in an oven previously raised to a temperature of about 450 deg .
The baker's old-fashioned method of test ing the temperature of his oven is instruct
ive. He throws flour on the floor. If it
blackens without taking fire, the heat is con-
sidered sufficient. It might be supposed that this is too high a temperature, as the object is to cook the flour, not to burn it. But we must remember that the flour which has been prepared for baking is mixed with water, and the evaporation of this water will materially lower the temperature of the dough
itself. Besides this, we must bear in mind that another object is to be attained. A hard shell or crust has to be formed, which will so incase and support the lump of dough as
to prevent it from subsiding when the furto prevent it from subsiding when the fur-
ther revolution of carbonic acid gas shall cease which revolution of carbonic acid gas shall cease, ooking of the mass is completed. It will lappen when the temperature reaches that point at which the yeast cells can no longer germinate, which temperature is considerably below the boiling point of water. In
spite of the high outside temperature, that spite of the high outside temperature, that
of the inner part of the loaf is kept down toa ittle above 212 degrees by the kept down of the water contained in the bread; the escape of this vapor and the expansion of the car bonic acid bubbles by heat increasing the
porosity of the loaf. The outside being heatporosity of the loaf. The outside being heathe inner part, this variation produces the differences between the crust and the crumb The action of the high temperature directly converts some of the starch into dextrine, and
a part of the latter again into caramel. Thus whave in the crust an excess of dextrine ompared with the crumb, and the addition of a variable quantity of caramel. In lightly baked bread, with a crust of uniform pale ellowish color, the conversion of the dextrine
into caramel has barely commenced, and the gummy character of the dextrine coating is vell displayed. Some such bread appears partially soluble in water. This explains ie apparent paradox that hard crust, or dry toast, is more easily digested than the
soft crumb of the bread, the cooking of the soft crumb of the bread, the cooking of the mere hydration of the gluten and the starch nd during the preliminary period of "rising." Everybody has, of course, heard of " aer " bread and most have tasted it. Severa nethods have been devised, some patented for effecting an evolution of gas in the dough
without having resource to the fermentation above described. In spite of the great ufacture of such unfermented bread, and the efforts to bring it into use, but little progres as been made. The general verdict a pears to be that unfermented bread is not so is "chippy" or tasteless, as compared free from alum or other adulterations. My theory of this difference is that it is due to the absence of those changes which take when the diastase of the grain is operating, as in germination, to produce a certain quantity of dextrine and sugar, and possibly acting also on the gluten. Deficiency of dex trine is, I think, the chief cause of the chippy membered that this stage is protracted over several hours, during which the temperature most favorable to germination is steadily maintained.

The Winnipeg Commercial in speaking of the Manitoba harvest, says: As the reapers
and binders have almost ceased working, and and binders have almost ceased working, and
threshmg machines are now commencing heir work, reliable reports as to the state in wow be received, and these give reason for congratulation and satisfaction. The bulk of the wheat crops have been secured in good ondition, and the small portion of it which That some wheat will be slightly bleached is beyond a doubt, and that at very rare inter rals a sheaf in a slightly sprouted condition may be met with is true, but cases of the
latter are so rare that there are whole municipalities in which one could not be found. What slight damage has been done is attributed to the rains which prevailed during he last week of August and the first two of september. Yet we must not conclude that
hese rains were an ummixed evil contrary, they will put thousands of dollars in the pockets of our farmers. Six weeks going to turn aut if the late oat crop was the entire country, but the rains during the last week of August improved this crop so nuch that the gain thereby will ten times
cover all the damage they did to wheat if every circumstance was in the favorable combination, we are now at the close of September, and not a sign of frost has made its appearance, so that we have now safe a seemed only to be fit to be plowed under. When we take this into consideration, we
may look upon the late rains as a blessing in
disguise, and the improvement in root crops has also been great owing to these same rains. Taken altogether we have every abundant harvest, and let us hope that it is only one of many to come.
coal 'slack.
One of the most interesting of the many nothing. All of us attempt the solution of this at times, without any very great success, which are waiting to be reaped. tunity of this character has existed for yeor attention has been repeatedly called to it, but little or no advantage is taken of it. This mense amount of coal slack, culm, so-called. now in the coal regions waiting for purchas ats. Millions of tons of good fuel can be had choose to avail themselves of it. Culm cannot be used in ordinary furnaces, but appliances used, but practically it is unknown as fuel in tates against its cheapness is the law of supply and demand; as soon as any product is in it is an article of merchandise, and the price rises. The sand from the seashore is a staple price-for sand. Variousattempts have been made to use coal slack in other lines of trade, exist the consumption is not worth mention ing.
should avail the that steam users at any rate slack, and obtain cheap fuel, the cost of alter ations to an ordinary furnace being very tricial coal.-Mechanical Engineer.

In the Italian Senate, Senator Rossi and other high protectionists, made an attempt ed, but was promptly voted down. The tariff is now 1.40 lire (about 27 cents,) per cwt.,
which is higher than in all other European countries, in which agriculture is not in a very backward state. Spain levies a duty of 82 cents, and Portugal $\$ 1.09$ on each cwt.,
while importation is entirely free in Great Britain, Belg.
and Russia.


NEWS
Wood \& Kenyon, Onawa, Ia., are putting in two
pair rolls with patent automatic feed from the Case
Dan' 1 Smith, Hayesville, O., is makking some changes
in his mill, and is putting in three pairs of rolls with
Tompany, Columbus, O.
The Case Manufacturing Company, Columbus, 0 .,
reeeived a cablegram from A. B. Childs \& \& onn, London, Enn,., for two parir rom
feed and two Case purifers.
Thomas Clif, an employe in Sylvester's mill, at Bos-
cobel, wis., recently got caught in terribly mangled, and has since died of his injuries.
One of his arms was crushed nearly to the shoulder A. B. Wilkins \& \&on, Patalaska, O., are making
some changes in their mill and putting in one "Little
Giant" break machine Giant break machine and scraper combined, a
two pairs of rolls with patent autoratic feed.
 with the Case Manufacturing Company, Columbus,
O. for an outtit of breakss rolss, purifiers, centrifu:
gals, eto, for a

## Case syste The Case

The Case Manufacturing Company, Columbus,
have Just shipped. To J. E. MeCray \& Co., Omaha,
Neb., a No. 1. double put

automatio teed; to D. H. Turner, Blair, Neb., one
no.
no. double "CCNe.".

## The Mazeppa (Minn.) Mill Co.,

made an assignment
 Wheol to the Minnesota Elevator Company. The obli-
gations gations of the former to the latter are \& 83,000
eaused the failure of the Elevator Company.
The La Crosse, Wis., oracker factory, says the local
exchange, has commeneed operations, and is now
alling orders to the tel Alling orders to the trado in all dirireotios. . The oove,
with its revolving wheel, and all the other impored with its revolving wheel, and ail the other itporveved
machinery, works to a charm. As fast asothe erack machinery, works to a charm. As fast asothe crack-
ers are baked, they are elevated on wooden cleats
 This work is done by giris., Bightyoung ladies and Twenty persons are now on the pay-rolls at the fac.
pin
p
R

|  |
| :---: | The Minnesota Elevator Company of Red Wing.

Minn., organized about a year ago, made an assign ment Sept. 3, to Judge E. T. Wilder. The company
owned between thirty Milwaukee \& St. Paul railway, running enst and west
from Reed's landing. The liabilities ene wit
 that the institution has been caught on wheat teals.
The news of thasisinmment coused anun on thirst
Tational Bank of Wabasha, which, it is under National Bank of Wabasha, which, it is understood,
had discounted some of the eompang's saper. The
bank suspended payment for a few ho inik suspended payment for a few hours, but later
in the ayy resumed and announced its ability to meet
all its obligations promptly.



 Harlan. Ia., a complote roller mill-Case system;
Thomas Bros., Madison, Neb., ". Little e iant" Break
Machine, with scalper: A. H. Fal
 A short time sinee, the West Shore R. R. Co. sent out
requisitions to the different engine builders, to which they had a full response, and in the enace ors tuch hiow
er prices, they have placed their order for a 300 H . Cummer engine. The engine is to supply motive
power for their large shops at Frankfort, N. Y . The
Cummer Co teel ammer Co.f feel quite elated at reeciving this order,
as it comes in the wake of an order received from the
ennsylvania R R. . Co. inaer justas severeceompeot sitim. Thilar conditions, and
nater $C$.
ning their extensive new works at Indianapolis, Ind. The
 plete for the Upton Mfg. Co...of Battle Creek, , cioh.:
and two engines, 70 H. P. each, for the Citizens' El. Lt. Co., Akron, O. Cummer engines have esus been
started at the Louisile Exposition, St. Louis
sition and bach, Touganoxie, Kans. The above Company yreport
work on the three larese Ballantine Refrigerating
machines for Joseph Husler, of New gressing very rapidily, their orders still on the the in-
crease, and a splendid outlook for tuture The Case Manutactoring Company, Columbusus. o.,
have reeeived the following orders the past mont:
From W. T. Pyne, Louisville, Ky, for sets of rolls



 mill, when completed, will have a ceapeatity ofd sixty
to seventy five barreess; from Leggate \& Everdeen
Centerity Centerville, Ind., for two pairs of rolls with patent
automatic feed; from S. L. Ellis \& Co., Hopkinsville

 Dubuque, la., por two pair rolls and one No. 1 double
purifter with patent automatic feed, to be shipped to
E. Maskery $\&$ Son, Mare
 twenty Case automatio feed-boxes that the C. A. A.
Combrill foiks are using on difterent purifers; from
Kerfoot ros., Des Moines, Ia., for four sets rolls
with
 Mckellop, Perry, Mich., for one Case improved Cen
trifugal Ieel and uwo pair rolls with automatic feed
the contract of Co The contract of Chas. Emme Fredonina, N. N., for an
outflt of breaks, rolls, purifers, sealpers, eentrifu

 ville, Ind., foed a prom Lent Leggate \&utomatic Feved foen, thententer
from Hunter $\&$ Johnson,
 irafton, wis., for a complete outtht of breaks, rolls, chests, ete., for a full roller mill on the "Case" sys
tem,-, twelve pairs or rolls with patent nutomatio
eed will be used; from A. F W

 Giant" break machine, and two pair rolls with patent
automatio feed; the contratet of $M$ and $K$. Hardesty,
Currollton 0 , purifiers, centrifugals, scalping-reels, ete., tor a full
ranuual reduction
Gieo

 bined, to be shippe

ONE of the handsomest catalogues of milling machinery which we have seen for a long time has just been issued by The Nordyke d Marmon Co., of Indianapolis, Ind. It ap pears to be perfect in every respect and doe the compiler and printer great credit.
A New York paper sums up matters as follows: The crop movement for this year compared with 1882 and 1883 , beginning with of accumulation, shows: Wheat, 1884, 32, 677,000 bush.; corn, $21,219,000$ do.; oats, 16 ,
 $1882,27,918,900$ bush.; corn, $13,352,000$ do. oats, $13,375,000$ do. In the warehouses of Great Britain, France and Germany the stock Exports from India last week show a de crease compared with last year of 60 per cent. or $2,300,000$ bush. versus $5,410,000$ bush foutta and Bombay aggregated $13,283,000$ against $23,525,000$ bush. in 1883 . The crop yield of the world is about 25 per cent. greater than 1883.

都 the third week of September to have been quiet but steady on wheat and flour. Offerings in the country small, but sufficient. Neither was there any activey the the Pari Bulletin des Halles makes its final estimate of this year's French wheat crop and place than the official estimate of last year's crop The quality is said to be generally excellent. According to official returns, the net impor According to oficial returns, the net impor of wheat and flour into France during Aug ust amounted to $545,000 \mathrm{qrs}$, against 548,200 qrs last year, and 5 close values of wheat were generally fairly close values of wheat were generaly
maintained, but there were no signs of activity in the trade. The Paris "term" market was reported steady. There was a sight in-
provement in the wheat trade at both Antwerp and Brussels, but rye and other article remained quiet. Red winter wheat delivere at Antwerp was quoted equal to 31 s 9 d to 32 s
6d, per 480 lbs. German markets were generally steady. Dutch markets were quiet and rather lower. Austro-Hungarian reports showed flour to be in better demand for the scarce, and prices were firmer, but fine and middling qualities remained very slow sell. Wheat closed rather lower at both Vienna and Pesth. Russian advices repor continued small shipments from st. Petersburg to the United Kingdom. This, howat home, and not to any scarcity in Russia, for it is reported that about $1,000,000$ chetsabout $750,000 \mathrm{qrs}$-are being warehoused at St. Petersburg, in default of buyers for export at suitable prices.
difference of opinion as to the probable quantity of Russian wheat exports during the present harvest, some parties estimating it at $7,000,000$ and some at $8,000,000$ qrs; but of Russian exports during the last six years has been at the rate of $8,878,000 \mathrm{qrs}$ per annum.
Numerous complaints have been made in shrinkage or dockage at Duluth, and in order o ascertain if there exists any ground for these alleged grievances a thorough investigation of the matter has been made by the they were being docked unmercifully this Northern Pacific and Manitoba roads alleged that in order to protect themselves against the Duluth elevator companies they are con pelled to shrink the wheat to the proportions one fact, and that is the present crop of wheat contains more dirt and foul seed than any crop ever raisend farmers themselves admit the truth of this, that no such crop of with the wheat before. This is the principal trouble, though seeds of all kinds are found in great abundance in most all the wheat age by the local elevators is admitted to not far from five pounds per bushel. Fargo, Moorhead and other stations on Northern Pacific road, it is not an unusua pounds to the bushel on account of dirt.

Wheat harvests in hungary. The following table, prepared from the offcial statistics of the Minister of Agriculture,
hows the wheat crops in Hungary from 1869 to 1883 , inclusively:

| Year. | Cultivated hectares. | Yield, hectoliters |
| :---: | :---: | :---: |
| 1869 | . $2,157,506$ | 18,725,110 |
| 18 | .. 2,024,102 | 22,239,653 |
| 1871 | . 1,883,374 | 15,818,952 |
| 1872 | ...2,020,391 | 15,664,361 |
| 1873 | 2,142,211 | 14,076,157 |
| 1874 | . . 2,245,705 | 21,613,693 |
| 1875 | .2,291,230 | 17,243,274 |
| 1876 | ...2,603,051 | 18,207,781 |
| 1877 | 2,416,394 | 22,102,683 |
| 1878 | ...2,502,765 | 3c,276,987 |
| 1879 | .2,464,919 | 18,400,621 |
| 1880 | . $2,312,139$ | 28,250,000- |
| 1881 | ...2,369,344 | 32,326,859 |
| 1882 | .2,505,855 | 48,874,338 |
| 1883 .. | 2,427,745 | 32,748,699 |

One hectare $=2.471$ acres.
One hectoliter $=2$ bushels $3 t$ pecks.
utritive value of different kinds of est resea
According to latest researches, the differen kinds of grain contain the following percent ges of nutritive matter:


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SITUATION WANTED $\begin{aligned} & \text { As head mil- } \\ & \text { ler by miller }\end{aligned}$
of long experience. Unquestionable refer
ences funished.
U. Sd Miress
U. Miller, Milwaukee, Wis.

SITUATION WANTED $\begin{aligned} & \text { Byapractica } \\ & \text { miller, exper }\end{aligned}$ good engineer and Roner milling. Is also a Blue Earth City, Minn.

WANTED
Immediately, a permanent situation in some Berre or Roller Mill. Have worked second in Burr Mdres
Am single, and can give reference. Adres.
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[^4]:    (1)

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